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(54) **TUMOR-ASSOCIATED PEPTIDES THAT BIND TO MHC-MOLECULES**

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(52) **U.S. Cl.** **530/300**; 436/23.1; 435/69.1

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See application file for complete search history.

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(57) **ABSTRACT**

The invention relates to a tumor-associated peptide with an
amino acid sequence selected from the group consisting of
SEQ ID NO. 1 to SEQ ID NO. 577 from the attached
sequence protocol, the peptide being capable of binding to a
molecule of the human major histocompatibility complex
(MHC) class I. The invention further relates to the use of the
peptides for preparation of a drug and for the treatment of
tumor diseases and/or adenomatous diseases. Furthermore, a
pharmaceutical composition is described comprising at least
one of the peptides.

19 Claims, 5 Drawing Sheets

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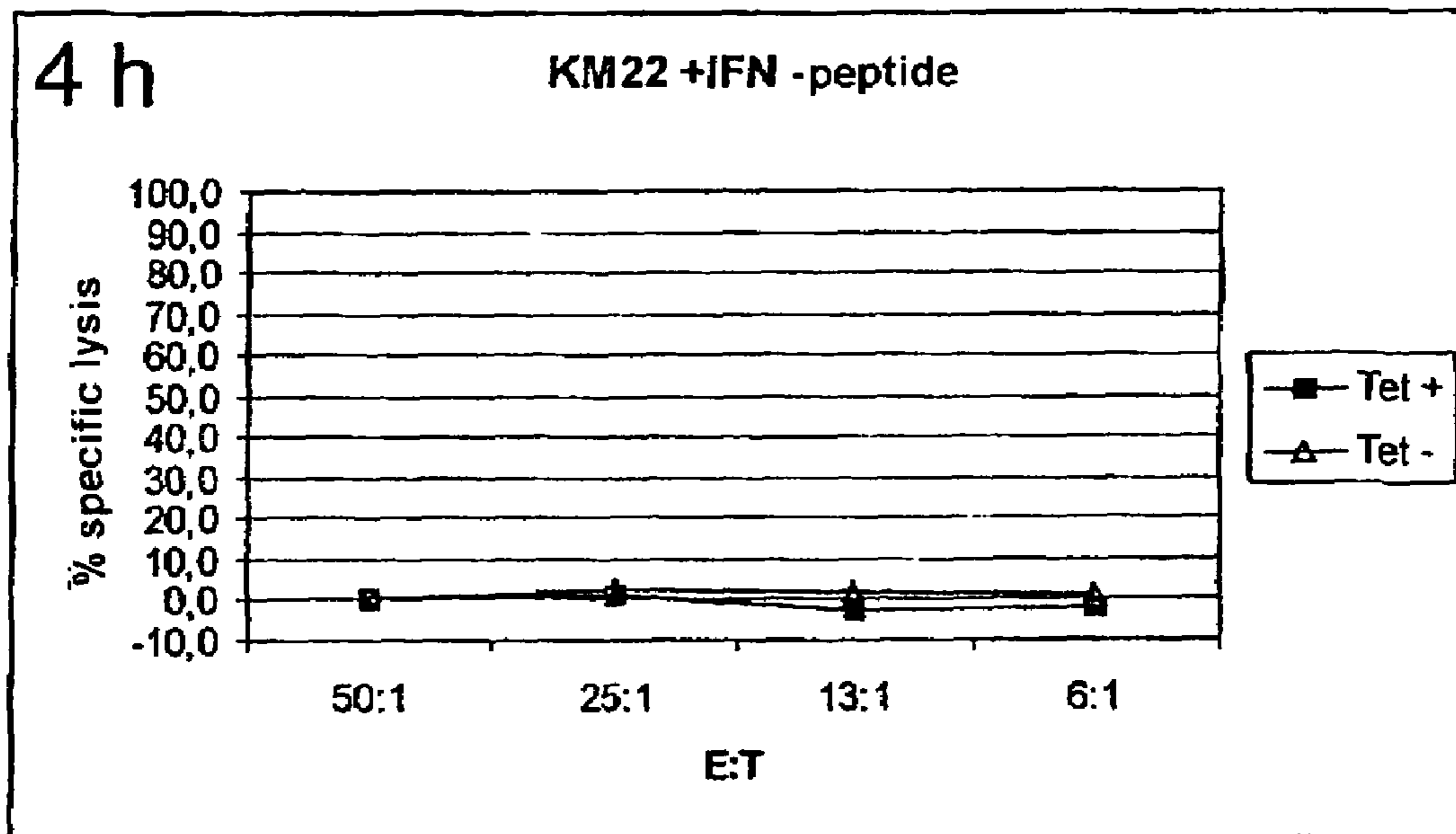


Fig.1a

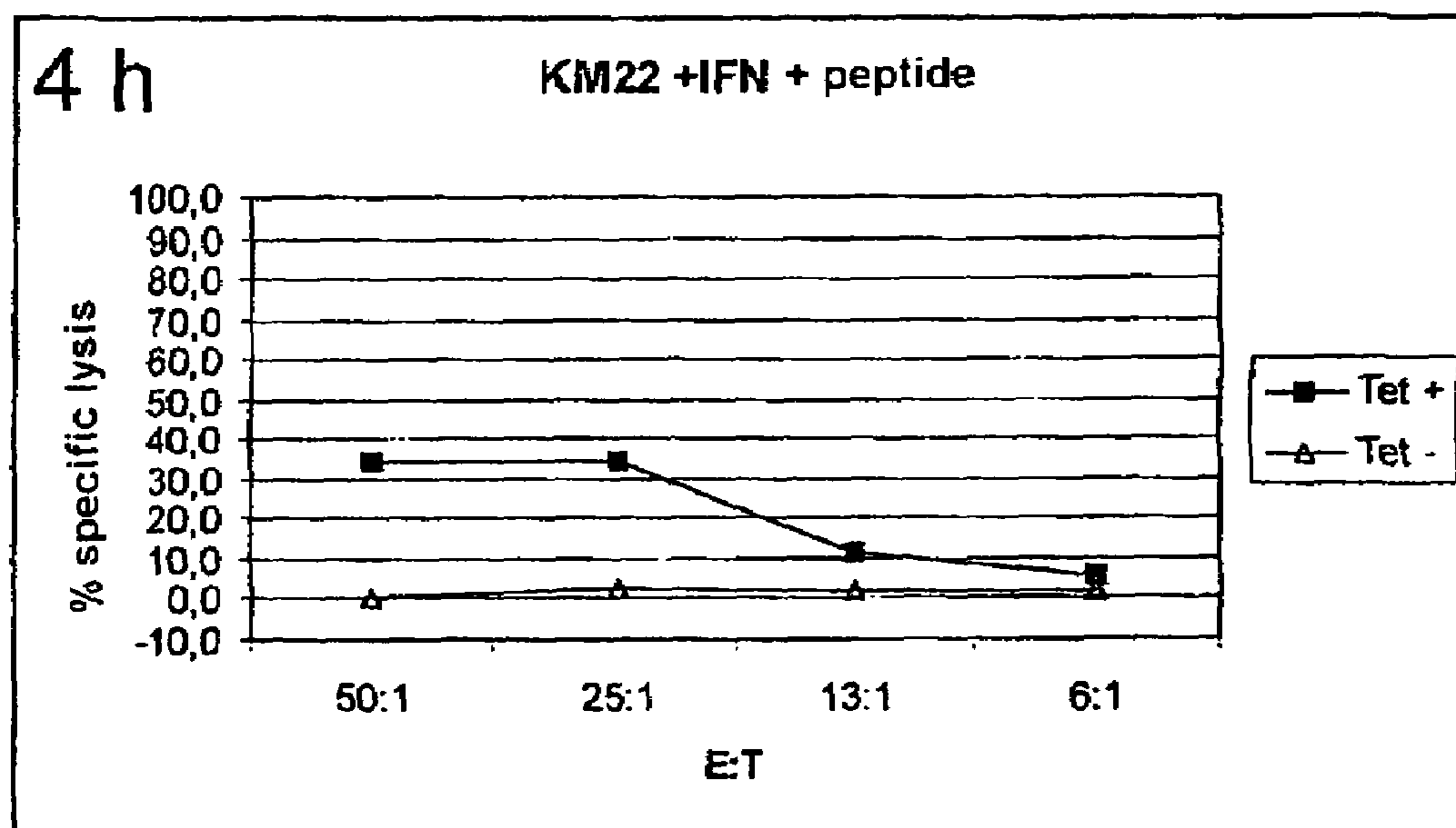


Fig. 1b

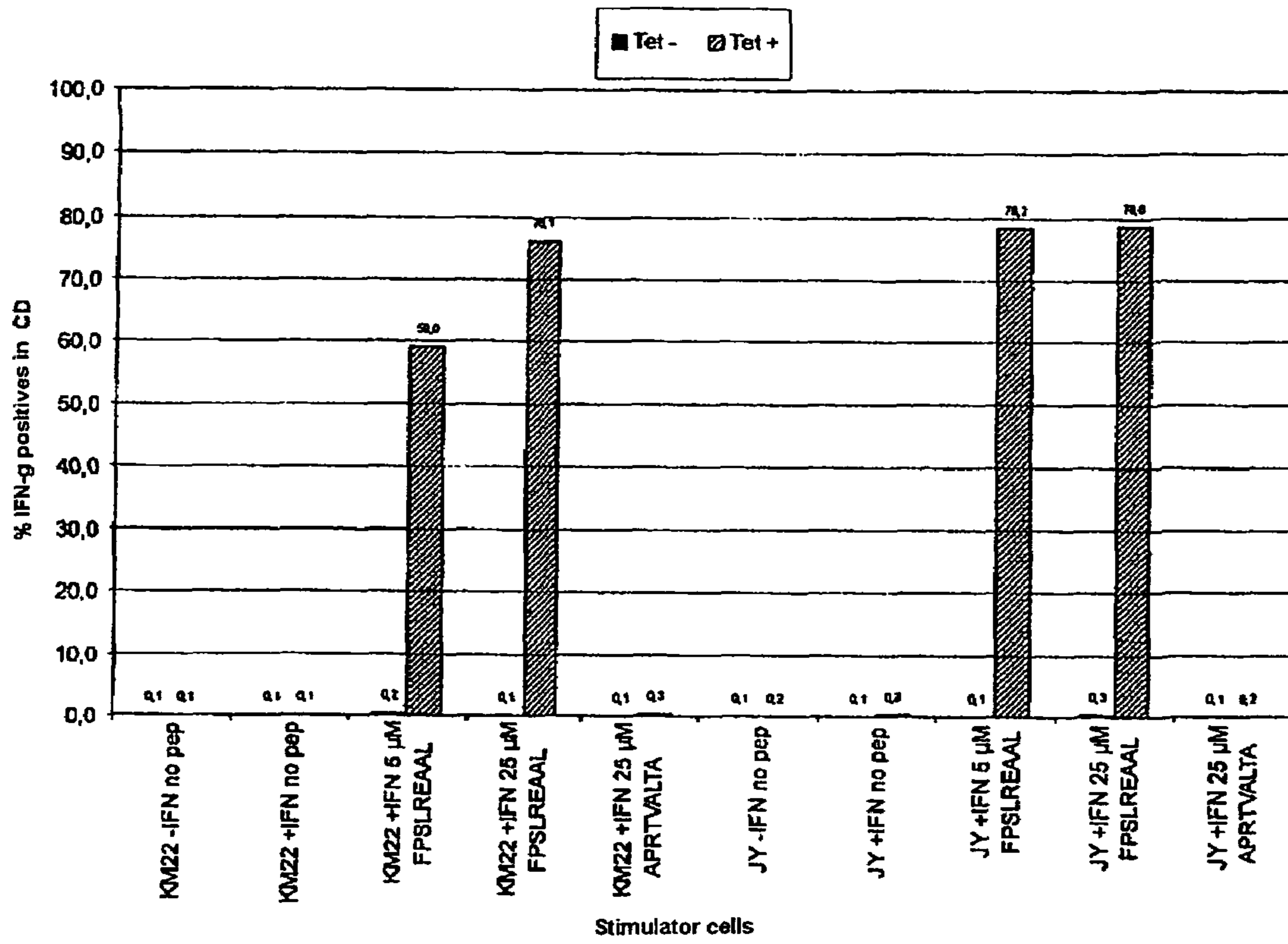


Fig. 2

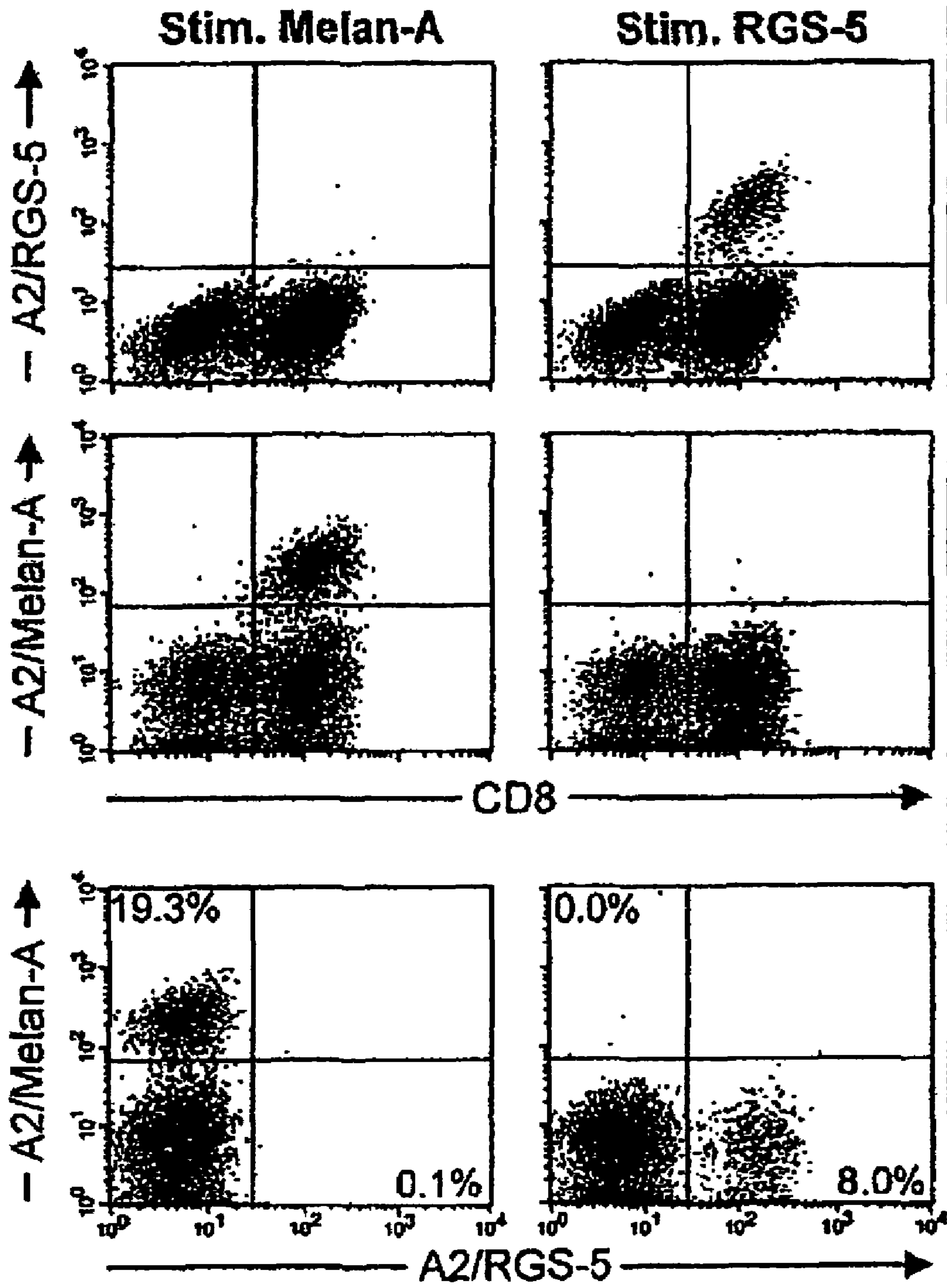


Fig. 3

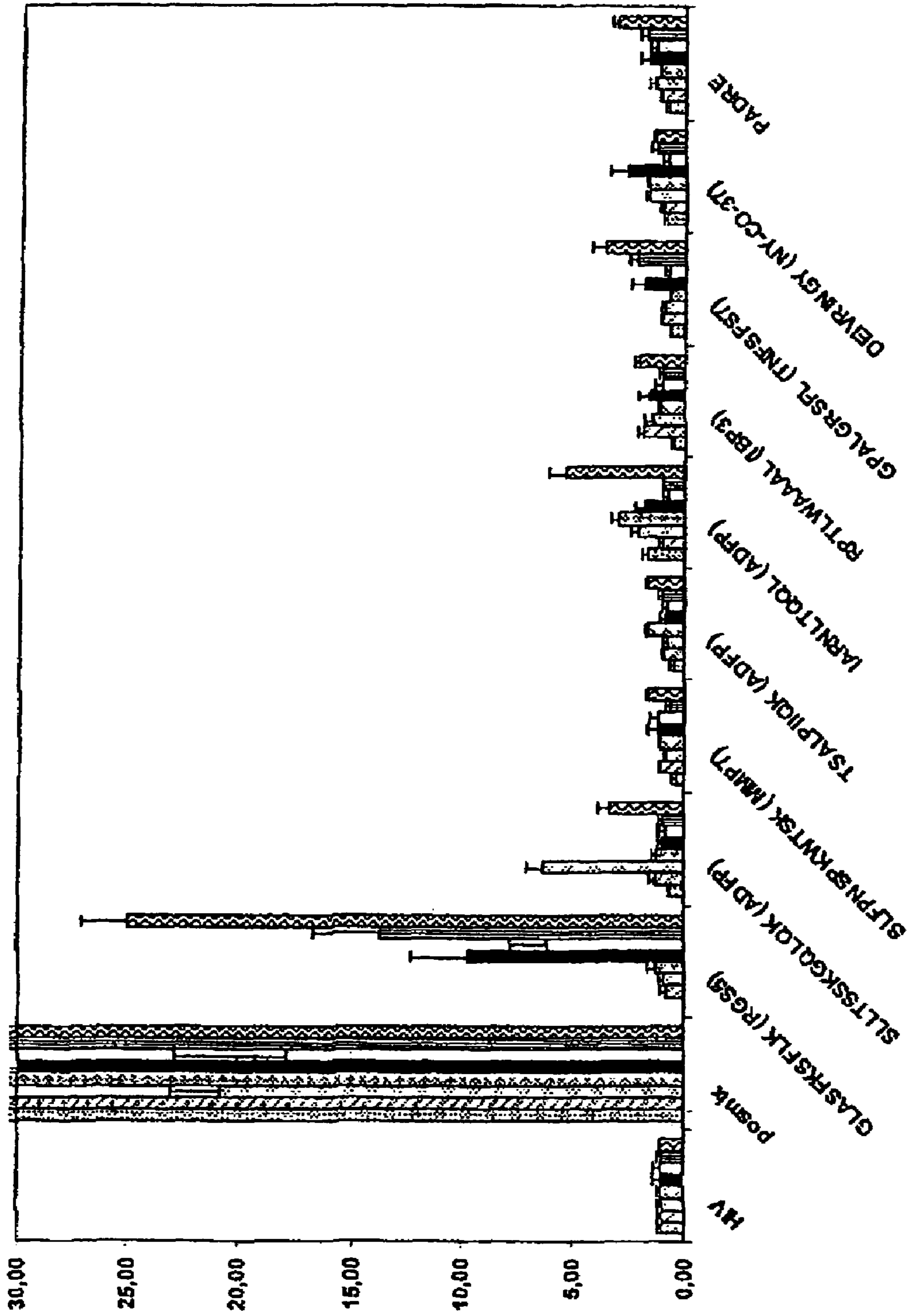
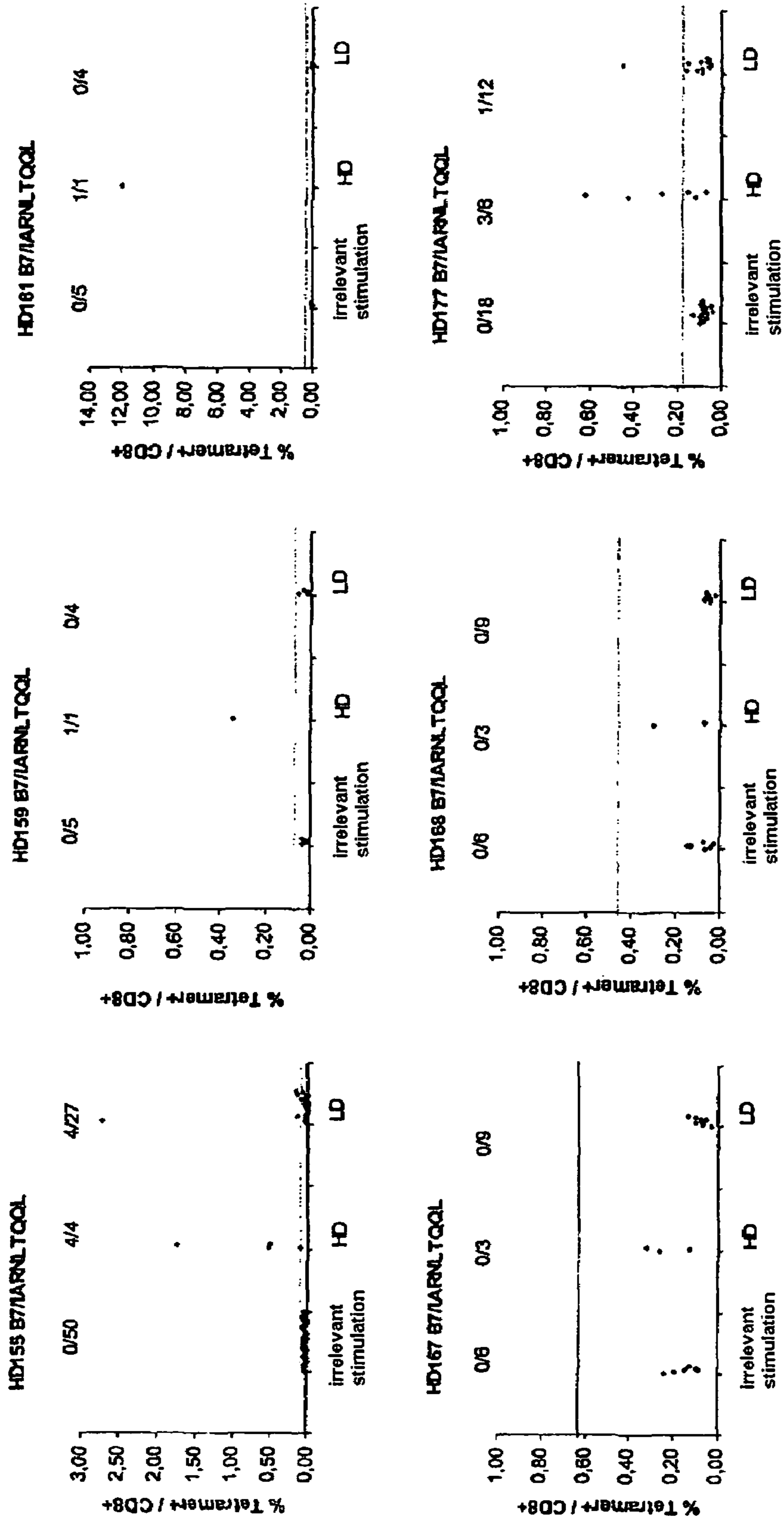


Fig. 4

Fig. 5



TUMOR-ASSOCIATED PEPTIDES THAT BIND TO MHC-MOLECULES

CROSS-REFERENCE TO A RELATED APPLICATION

This application is a National Stage Application of International Application Number PCT/EP2005/005619, filed May 24, 2005; which claims priority to German Application No. 10 2004 026 135.0, filed May 25, 2004.

The present invention relates to tumor-associated peptides that are capable of binding to a molecule of the human class I major histocompatibility complex (MHC). Such peptides are, for example, used in the immunotherapy of tumor diseases.

The recognition of tumor-associated antigens (TAA) by immune system components plays a major role in the elimination of tumor cells by the immune system. This mechanism is based on the prerequisite that there are qualitative or quantitative differences between tumor cells and normal cells. In order to achieve an anti-tumor response, the tumor cells have to express antigens that are targets of an immune response sufficient for elimination of the tumor.

Particularly CD8-expressing cytotoxic T lymphocytes (in the following termed CTL) participate in tumor rejection. In order to elicit such an immune reaction by cytotoxic T cells, foreign proteins/peptides must be presented to the T cells. T cells recognize antigens as peptide fragments only if those are presented on cell surfaces by MHC molecules. These MHC ("major histocompatibility complex") molecules are peptide receptors that normally bind peptides within the cell in order to transport them to the cell surface. This peptide/MHC molecule complex can be recognized by T cells. Human MHC molecules are termed human leukocyte antigens (HLA).

There are two classes of MHC molecules: MHC class I molecules, present on most nucleated cells, present peptides that are generated by proteolytic degradation of endogenous proteins. MHC class II molecules are only found on professional antigen presenting cells (APC), and present peptides of exogenous proteins that are engulfed and processed by APC during endocytosis. Complexes formed between peptide and MHC class I are recognized by CD8-positive cytotoxic T cells, complexes formed between peptide and MHC class II are recognized by CD4 T helper cells.

In order for a peptide to elicit a cellular immune response, it needs to bind to an MHC molecule. This process depends on the allele of the MHC molecule and on the amino acid sequence of the peptide. Usually, MHC class I-binding peptides have a length of 8-10 residues, and their sequences contain two conserved residues ("anchors") interacting with the corresponding binding groove of the MHC molecule.

In order for the immune system to be able to elicit an effective CTL response against tumor-derived peptides, such peptides not only have to be able to bind to certain MHC class I molecules being expressed by tumor cells, they also have to be recognized by T cells bearing specific T cell receptors (TCR).

The main purpose for developing a tumor vaccine is the identification and characterization of tumor-associated antigens being recognized by CD8+ CTL.

The antigens, or their epitopes, that are recognized by the tumor-specific cytotoxic T lymphocytes can be molecules from all protein classes, such as enzymes, receptors, transcription factors, etc. Another important class of tumor-associated antigens are tissue-specific structures such as CT ("cancer testis") antigens that are expressed in various types of tumors and in healthy testicular tissue. For the proteins to

be recognized as tumor-specific antigens by cytotoxic T lymphocytes, and to be therefore used in a therapy, certain conditions must be met: The antigen should mainly be expressed by tumor cells and not or only in smaller amounts by normal cells in contrast to tumors. Furthermore, it is desirable that the respective antigen is present in high concentration not only in one type of tumor but in other tumor types as well. The presence of epitopes in the amino acid sequence of the antigen is also absolutely mandatory since such peptides that are derived from a tumor-associated antigen ("immunogenic peptides"), should lead to a T cell response, either in vitro or in vivo.

Therefore, TAAs are a starting point for the development of a tumor vaccine. The methods for identifying and characterizing the TAAs are based on the use of CTL that have already been induced in the patients, or they are based on the generation of differential transcription profiles between tumors and normal tissues.

However, the identification of genes overexpressed in tumor tissues or human tumor cell lines, or selectively expressed in such tissues or cell lines, does not provide precise information as to the use of the antigens being transcribed from these genes in the immune therapy. This is because only individual epitopes of these antigens are suitable for such an application since only the antigen epitopes—not the entire antigen—elicit a T cell response through MHC presentation. It is therefore important to select only those peptides from overexpressed or selectively expressed proteins that are presented in connection with MHC molecules, so targets for the specific recognition of primary cells or of tumor cell lines established from primary tumor tissue cells, by cytotoxic T lymphocytes could be obtained.

Based on this background, it is an objective of the present invention to provide at least one novel amino acid sequence for such a peptide that is capable to bind to a molecule of the human major histocompatibility complex (MHC) class I.

According to the invention this objective is addressed by providing a tumor-associated peptide with an amino acid sequence selected from the group consisting of SEQ ID NO. 1 to SEQ ID NO. 577 in the attached sequence protocol, whereby the peptide being capable of binding to a molecule of the human major histocompatibility complex (MHC) class I. In this way, the objective forming the basis of the invention is addressed completely.

It is to be understood that the identified tumor peptides may be synthesized to obtain larger quantities or for the use for the below described purposes, or may be expressed in cells.

The inventors were able to isolate and identify the above mentioned peptides from tumor tissue as specific ligands from MHC class I molecules. The term "tumor-associated" peptides herein refers to peptides that are isolated and identified from tumor material. Thus, these peptides that are presented on true (primary) tumors are subjected to antigen processing in a tumor cell.

The specific ligands could be used in cancer therapy, e.g. to induce an immune response against tumor cells expressing the respective antigens from which the peptides are derived.

Such an immune response in form of an induction of CTL may be obtained in vivo. In order to obtain such an immune response the peptide is administered to a patient suffering from a TAA-associated tumor disease, for example in form of a pharmaceutical composition.

On the other hand, a CTL response against a tumor expressing the antigens from which the peptides are derived may also be elicited ex vivo. In order to do so, the CTL precursor cells are incubated together with antigen presenting cells and the

peptides. Then, the thus stimulated CTL are cultivated, and these activated CTL are administered to the patient.

Furthermore, it is possible to load APC with the peptides *ex vivo*, and to administer these loaded APC to the patient expressing in the tumor tissue the antigens from which the peptide is derived. Then, the APC themselves may present the peptide to the CTL *in vivo*, and thereby activate them.

However, the peptides according to the invention may also be used as diagnostic reagents.

Thus, using the peptides it could be found out if CTL are present in a CTL population or have been induced by a therapy that are specifically directed against a peptide,

The peptides may also be used to test for the increase of precursor T cells with reactivity against the defined peptide.

Furthermore, the peptide may be used as a marker to track the disease course of a tumor expressing the antigen from which the peptide is derived.

The attached Table 1 lists the identified peptides. The table also contains the proteins from which the peptides are derived, and the respective positions of the peptides in the respective proteins which are named or abbreviated by accepted gene symbols according to the "HUGO Gene Nomenclature Committee" The English names of the proteins have been maintained to avoid erroneous translations. Furthermore, the ACC numbers are listed that are used in the gene bank of the "National Center for Biotechnology Information" of the National Institute of Health.

The inventors were able to isolate the peptides (or ligands) from 8 renal cell tumors and 2 glioblastomas from altogether 10 patients, RCC75, RCC98, RCC100, RCC103, RCC112, RCC115, RCC116, RCC130 and NCH359, as well as NCH361, and from a tumor cell line (J-Y).

From the patients' tumors and the cell line J-Y 577 ligands could be identified that were bound to the HLA subtypes A*03, B*07, B*40 (RCC75), A*01, A*03, B*07, B*18 (RCC98), A*02, A*03, B*07, B*18 (RCC100), A*11, A*25, B*15, B*44 (RCC103), A*01, A*31, B*08, B*27 (RCC112), A*02, A*03, B*15, B*18 (RCC115), A*01, A*02, B*27, B*37 (RCC116), A*02, A*24, B*07, B*44 (RCC130), A*03, A*32, B*07, B*35 (NCH359), A*26, B*38 (NCH361) and A*02, B*07 (J-Y).

Some of the ligands are derived from highly expressed so called "housekeeping" genes that are uniformly expressed in most tissues, however, many are characterized by tissue-specific and tumor-specific expression.

Thus, several peptides could be identified that are derived from proteins which are especially overexpressed in tumor tissue. For example, fragments of tenascin-C (GLAPSIRTK, SEQ ID NO. 2) could be identified (Herold-Mende et al., Clinical impact and Functional Aspects of Tenascin-C Expression during Glioma Progression, 2002, Int. J. Cancer, 98: 362-369).

Also, the inventors were able to identify ligands, among others, that are derived from SOX9 (YPHLHNAEL, SEQ ID NO. 7) and RGS5 (LAALPHSCL, SEQ ID NO. 448).

As primary tumor cells are not suited for *in vitro* culture, the inventors have chosen a human tumor cell line as an example in order to additionally demonstrate that peptides according to the invention identified from this cell line, are suited to activate cytotoxic T lymphocytes *in vitro*. Particularly, the inventors could show that using a peptide from the established tumor cell line JY as an example, it was possible to generate cytotoxic T lymphocytes (CTL) *in vitro* that are specific for the selected peptide with the sequence FPSL-REAAL (MAGEA1, position 294-302) and SEQ ID NO. 114 and the HLA allele B*0702. Using these CTL, KM22 target cells loaded with the SEQ ID NO. 114 peptide could be

selectively killed, whereas KM22 control target cells not loaded with the SEQ ID NO. 114 peptide were not recognized by the cytotoxic T cells. Thus, it could be shown exemplified that human T cells could be activated *in vitro* using the peptides according to the invention as epitopes. Furthermore, it could be demonstrated that the cytotoxic T lymphocytes lysing the T2 cells loaded with the SEQ ID NO. 114 peptide also express interferon gamma which has been described as a reliable marker for the activation of T cells.

In a preferred embodiment, it is also possible to use peptides for stimulating an immune response that comprise sequence ID NO. 1 to 577, and in which at least one amino acid has been replaced by another amino acid with similar chemical properties.

Referring to the corresponding MHC subtypes, these are, for example, the anchor amino acids that may be replaced by amino acids with similar chemical properties. Thus, for example, in peptides associated with the MHC subtype HLA-A*2, leucine on position 2 may be replaced by isoleucine, valine or methionine and vice versa, and at the C-terminus leucine by valine, isoleucine and alanine, each containing non-polar side chains.

Furthermore it is possible to use peptides with sequence ID No. 1 to 577 comprising at least one additional amino acid N-or/and C-terminally, or in which at least one amino acid is deleted.

Furthermore, peptides with sequence ID No. 1 to 577 may be used in which at least one amino acid is chemically modified.

The varying amino acid(s) is (are) selected in such way that the variation does not affect the immunogenicity of the peptide, i.e. demonstrates a similar binding affinity to the MHC molecule and the capability for T cell stimulation.

According to the invention, the peptide may be used for treatment of tumor diseases and/or adenomatous diseases.

The tumor diseases to be treated comprise, for example, kidney, brain, mammary, pancreas, gastric, testicular and/or skin cancers and tumor diseases of the nerve system. This list of tumor diseases is only exemplary, and is not intended to limit the area of application. The inventors were able to show in independent studies that the peptides according to the invention are suitable for such use. In these studies it was shown that specifically generated CTL that are specific for certain peptides were able to kill tumor cells effectively and selectively.

Basically, for the use of tumor-associated antigens in a tumor vaccine, several application forms are possible. For example, Tighe et al. 1998, Gene vaccination: plasmid DNA is more than just a blueprint, Immunol. Today 19(2):89-97, described that the antigen may be administered either as recombinant protein together with suitable adjuvants or carrier systems, or in form of the cDNA encoding the antigen in plasmid vectors. For this, the antigen needs to be processed and presented by antigen presenting cells (APC) in the patient's body in order for an immune response to be induced.

Melief et al., 1996, Peptide-based cancer vaccines, Curr. Opin. Immunol. 8:651-657, demonstrated another option, namely the use of synthetic peptides as a vaccine.

For this purpose, the peptide may be used in a preferred embodiment together with added adjuvants, or alone.

As an adjuvant, for example, the granulocyte macrophage colony stimulating factor (GM-CSF) may be used. Further examples for such adjuvants are aluminum hydroxide, mineral oil emulsions such as, for example, Freund's adjuvant, saponins or silicon compounds.

The use of adjuvants provides the advantage that the immune response induced by the peptide may be enhanced, and/or the peptide may be stabilized.

In another preferred embodiment, the peptide is used bound onto an antigen presenting cell. This measure provides the advantage that the peptides can be presented to the immune system, particularly cytotoxic T lymphocytes (CTL). By this, the CTL are able to recognize the tumor cells and specifically kill them. Suitable as antigen presenting cells for such an application are, for example, dendritic cells, monocytes or B lymphocytes.

For this purpose, the cells are, for example, loaded with peptides *ex vivo*. On the other hand, it is also possible to transfect the cells with DNA encoding the peptides or with the corresponding RNA to express the peptide on the cells.

The inventors were able to show in independent studies that it is possible to load dendritic cells (DC) with specific peptides, and that these loaded dendritic cells activate peptide-specific CTL. This means that the immune system can be stimulated to raise CTL against the tumors expressing the respective peptides.

The antigen presenting cells carrying the peptide may be used either directly or may be activated prior to their use, for example with the heat shock protein gp96. This heat shock protein induces the expression of MHC class I molecules and co-stimulatory molecules such as B7, and also stimulates the production of cytokines. Together, this supports the induction of immune responses.

In another preferred embodiment, the peptides are used to label leukocytes, especially T lymphocytes.

This application is advantageous if it is intended to use the peptides to find out if CTL are present in a CTL population that are specifically directed against a peptide.

Furthermore, the peptide may be used as a marker to evaluate the progress of a therapy for a tumor disease.

The peptide may be used in other immunizations or therapies for monitoring the therapy as well. Therefore, the peptide may not only be used therapeutically but also diagnostically.

In another embodiment, the peptides are used to generate an antibody.

Polyclonal antibodies may be obtained conventionally by immunizing animals by injection of the peptides and subsequent purification of the immunoglobulin.

Monoclonal antibodies may be generated according to standard protocols, such as, for example, described in *Methods Enzymol.* (1986), 121, Hybridoma technology and monoclonal antibodies.

In another aspect the invention also relates to a pharmaceutical composition comprising one or more of the peptides.

This composition is used, for example, for parenteral administration, such as subcutaneous, intradermal or intramuscular, or for oral application. For this, the peptides are solved or suspended in a pharmaceutically acceptable, preferably aqueous carrier. Furthermore, the composition may contain excipients such as buffers, binders, diluents, etc.

The peptides may also be given together with immunostimulatory substances such as cytokines. A comprehensive description of excipients that may be used in such compositions is given, for example in A. Kibbe, *Handbook of Pharmaceutical Excipients*, 3. Ed., 2000, American Pharmaceutical Association and pharmaceutical press.

The preparation may be used for prevention, prophylaxis and/or therapy of tumor diseases and/or adenomatous diseases.

The pharmaceutical preparation containing at least one of the peptides with sequence ID NO. 1 to 577 will be administered to a patient suffering from a tumor disease with which

the respective peptide or antigen is associated. Thus, a tumor-specific immune response based on tumor-specific CTL can be elicited.

The amount of the peptide or peptides in the pharmaceutical composition is present in a therapeutically effective amount.

The peptides that are present in the composition may also bind to at least two different HLA types.

In a further aspect, the present invention relates to nucleic acid molecules encoding the peptides with sequence ID NO. 1 to 577.

The nucleic acid molecules may be DNA or RNA molecules, and may also be used for immune therapy of cancer diseases. The peptide which is expressed from the nucleic acid molecule induces an immune response against tumor cells expressing the peptide.

According to the invention, the nucleic acid molecules may also be present in a vector.

Furthermore, the invention relates to cells which have been genetically altered using a nucleic acid molecule encoding the peptides so that they produce a peptide with the sequence ID NO. 1 to 577.

For this purpose, the cells are transfected with the DNA encoding the peptides, or with the respective RNA, whereby the peptides are made to be expressed on the cells. As antigen presenting cells for such an approach are suited, for example, dendritic cells, monocytes or B lymphocytes.

It is to be understood that the features that have been mentioned above and that are yet to be discussed below, are suitable not only in the respectively described combination but also alone, without leaving the scope of the present invention.

Embodiments of the invention are presented and discussed in the following examples and in the attached figures.

FIG. 1a shows the negative control regarding CTL-specific lysis of KM22 target cells (without peptide);

FIG. 1b shows the CTL-specific lysis of KM22 target cells pulsed with peptide and treated with interferon gamma.

FIG. 2 shows the production of interferon gamma by specific T lymphocytes upon stimulation by KM22 or JY cells loaded with peptide.

FIG. 3 shows the peptide-specific stimulation of human CD8-positive T cells, and

FIG. 4 shows the detection of peptide-specific T cells in blood from renal cell carcinoma patients.

FIG. 5 shows the tetramer analysis of microsphere-driven proliferation of B*0702/IARNLTQQL-specific CD8+ lymphocytes from peripheral blood. Four (4) out of 6 tested donors (HD155, 159, 161, 177) had significant T cell responses (above the red line) that were directed specifically against the tested peptide antigen with SEQ ID NO. 233, as could be shown by detection of peptide/HLA-B*0702 complex-specific T cell receptors by tetramer staining.

EXAMPLE 1

1.1 Patient Samples

Eight samples were obtained from the Department of Urology at the University of Tübingen, Tübingen, Germany, that were derived from patients with histologically confirmed renal cell carcinoma. The patient termed RCC75 had the following HLA haplotype: A*03, B*07, B*40. The patient termed RCC98 had the following HLA haplotype: A*01, A*03, B*07, B*18. The patient termed RCC100 had the following HLA haplotype: A*02, A*03 B*07, B*18. The patient termed RCC103 had the following HLA haplotype: A*11, A*25, B*15, B*44. The patient termed RCC112 had

the following HLA haplotype: A*01, A*31, B*08, B*27. The patient termed RCC115 had following the HLA haplotype: A*02, A*03, B*15, B*18, The patient termed RCC116 had the following HLA haplotype: A*01, A*02, B*27, B*37, and the patient termed RCC130 had following HLA haplotype: A*02, A*24, B*07, B*44.

Two samples were obtained from the Department of Neurosurgery, University of Heidelberg, Heidelberg, Germany, that were derived from patients with histologically confirmed glioblastomas. The patient termed NCH359 had the following HLA haplotype: A*03, A*32, B*07, B*35. The patient termed NCH361 had following HLA haplotype: A*26 and B*38.

1.2. Isolation of MHC Class I-Bound Peptides

Shock frozen tumor samples were processed as previously described in Schirle, M. et al., Identification of tumor-associated MHC class I ligands by a novel T cell-independent approach, 2000, European Journal of Immunology, 30:2216-2225. The peptides were isolated according to standard protocols, using the monoclonal antibody W⁶³² which is specific for HLA class I molecules, or using the monoclonal antibody BB7.2 which is specific for HLA-A2. Barnstable, C. J. et al., Production of monoclonal antibodies to group A erythrocytes, HLA and other human cell surface antigens—new tools for genetic analysis, 1978, Cell, 14:9-20, and Parham, P. & Brodsky, F. M., Partial purification and some properties of BB7.2. A cytotoxic monoclonal antibody with specificity for HLA-A2 and a variant of HLA-A28, 1981, Hum. Immunol., 3:277-299, have described generation and use of these antibodies.

1.3. Mass Spectroscopy

The peptides were separated by “reversed phase HPLC” (SMART system, μ RPC C2/C18 SC ^{2-1/19}, Amersham Pharmacia Biotech), and the obtained fractions were analyzed by nanoESI MS. The approach corresponded to the approach described by Schirle, M. et al., Identification of tumor-associated MHC class I ligands by a novel T cell-independent approach, 2000, European Journal of Immunology, 30:2216-2225.

The peptides obtained from tumor tissue were identified by capillary LC MS, as just described, however with minor modifications: 100 μ L of each sample were loaded, desalted and pre-concentrated on a 300 μ m*5 mm C18 μ guard column (LC Packings). Solvent and sample were added using a syringe pump (PHD 2000, Harvard Apparatur, Inc.) with a sealed 100 μ L syringe (1710 RNR, Hamilton) at a speed of 2 μ L/min. For separation of the peptides, the pre-concentration column was installed before a 75 μ m*250 mm C18 column (LC Packings). Then, a binary gradient with 25-60% B was run for 70 min. during which time the flow rate was reduced from 12 μ L/min to approximately 300 nL/min. using a TEE connector (ZTIC, Valco) and a 300 μ m*150 mm C18 column.

To ensure that the system was free from peptide residues, a blank was measured respectively. Online-fragmentation was performed as described, and the spectra of the fragments were analyzed manually. Data base searches (NCBI^{nr}, EST) were performed using MASCOT (<http://www.matrixscience.com>).

1.4. Identification of the MHC Class I Ligands

In the attached sequence protocol and in the attached table 1 the ligands are listed that were bound to the HLA molecules of patients RCC75, RCC98, RCC100, RCC103, RCC112, RCC115, RCC116, RCC130, NCH359 and NCH361. The peptides associated with HLA-A*02 had an allele-specific peptide motif: on position 2, leucine, valine, isoleucine, alanine, or methionine were found, and at the C-terminus leucine, valine, isoleucine, or alanine. Most of the ligands were

derived from so-called “housekeeping” proteins, however, ligands from tumor-associated proteins could be identified as well. For example, fragments from tenascin-C could be identified (GLAPSIRTK, SEQ ID NO. 2; GVLKKVIRH, SEQ ID NO. 20). Herold-Mende et al., Clinical Impact and Functional Aspects of Tenascin-C Expression during Glioma Progression, 2002, Int. J. Cancer, 9S: 362-369, show that in general the strength of the expression of the extracellular matrix protein tenascin-C correlates with the severity of the disease and the immigration of tumor cells in healthy tissue.

1.5. Detection of Peptide-Specific T Cells in the Normal CD8+ T Cell Repertoire

For detection of peptide-specific T cells, for example specific for the peptide with the sequence FPSLREAAL (SEQ ID NO. 114), mononuclear cells from peripheral blood of healthy subjects were stained with the corresponding HLA-A* subtype tetramers constituted with the respective peptides: To generate the tetramers, recombinant HLA-B* subtype molecules were constituted in vitro with the peptides, purified by gel filtration, biotinylated, and mixed with streptavidin for linking the monomers, as described by Walter S. et al., 2003, Cutting Edge Predetermined Avidity of Human CDS T Cells Expanded on Calibrated MHC/Anti-CD2S-Coated Microspheres, J. Immunol. 171: 4974-4978.

Basically, the results of the double staining are measured by FACS analysis, and the specific binding of the peptide tetramers is detected (Walter S. et al., 2003, Cutting Edge: Predetermined Avidity of Human CDS T Cells Expanded on Calibrated MHC/Anti-CD2S-Coated Microspheres, J. Immunol. 171: 4974-4978).

EXAMPLE 2

To analyze the presentation of the selected peptides by tumor cells and the recognition of the peptides by CTL, CTL were induced in vitro that are specific for the chosen peptides. For this purpose, KM22 and JY target cell lines were used.

2.1. Recovery of the Specific T Lymphocytes

Specific T lymphocytes were isolated from the blood of healthy subjects as described in 1.5 and concentrated by FACS sorting.

2.2. Peptide Synthesis

The peptides chosen as an example were synthesized using F-moc (9-fluorenylmethyloxycarbonyl) protection groups on a peptide synthesizer (432A, Applied Biosystems, Weiterstadt, Germany) and analyzed by “reversed phase” HPLC and mass spectroscopy. Thereby, sufficient amounts of the identified peptides could be produced.

2.3. Induction of an Antigen-Specific CTL Response Using Restricted Synthetic Peptides

For CTL induction, the T lymphocytes obtained in step 2.1 (5×10^6 T lymphocytes per well) were co-incubated by in vitro restimulation in 24-well plates with 1×10^6 irradiated target cells per well in 1.5 mL T cell medium [consisting of RPMI 1640, 25 mM HEPES (Life Technologies/Invitrogen, Karlsruhe, Germany)] with 10% heat-inactivated human AB serum (CC Pro, Neustadt/Weinstraße, Germany), 2 mM L-glutamine, 50 U/mL penicillin, 50 mg/mL streptomycin, and 20 μ g/mL gentamicin (all from Bio Whittaker/Cambrex, Verviers, Belgium). Additionally, 5 ng/mL human IL-12 p70 (R&D Systems) were added. After approximately 4 days co-incubation at 37° C., fresh medium was added with 20 U/mL human IL-2 (R&D Systems), and the cells were incubated for another 3 to 4 days. This stimulation cycle was repeated twice.

2.4. CTL Assay

For the CTL assays, KM22 and JY tumor cell lines were used as target cells. Peptide-pulsed cells were pulsed with 50 µg/mL peptide for 2 hours. All target cells were labeled in RP10 medium (RPMI 1640, supplemented with 10% heat-inactivated fetal calf serum and antibiotics) for 1 hour at 37° C. with [⁵¹Cr] sodium chromate (⁵¹Cr). Then, 10⁴ cells/well were added to a 96-well round bottom plate. Various numbers of CTL were added to obtain an end volume of 200 µL, with subsequent incubation for 4 hrs at 37° C. Then, supernatants (500 µL/well) were harvested and counted in a beta-plate counter. Specific lysis was calculated in percent as follows: 100×(experimental release–spontaneous release/maximum release–spontaneous release). Each, spontaneous and maximum release were determined in presence of either medium or 2% Triton X-100.

2.5. Results of the CTL Induction

a) CTL Cytotoxic Activity Compared to Peptide-Pulsed Target Cells

In ⁵¹Cr release assays (see 2.4.) the cytotoxic activity of induced CTL (see 2.3.) was tested and compared to KM22 and JY cells. Cell lines KM22 and JY are HLA-B*07 positive.

The results of these release assays are shown in FIGS. 1a and 1b. In FIGS. 1a and 1b, the abbreviation “IFN” stands for interferon gamma, “E:T” stands for the ratio of effector to target cells, “Tet+” stands for T lymphocytes binding to HLAB*0702/FPSLREAAL (SEQ ID NO: 114) tetramers, and “Tet-” stands for T lymphocytes not binding to HLA-B*0702/FPSLREAAL (SEQ ID NO: 114) tetramers.

The results show that an antigen-specific kill of the cells can be obtained with CTL cell lines that have been obtained after restimulation for 2 weeks.

In FIG. 1a is shown that KM22 target cells treated with interferon gamma and positive for HLA allele B*0702 without peptide were not recognized by specific cytotoxic T lymphocytes. FIG. 1b shows that KM22 target cells, treated with interferon gamma, positive for HLA allele B*0702 presenting the peptide with the sequence FPSLREAAL from the tumor antigen MAGE-1 are recognized and lysed by specific cytotoxic T lymphocytes. Thus, only those cells were killed by an increasing number of CTL that presented the respective selected peptides; the control cells loaded with irrelevant peptides were not killed. By this, the specificity of the cytolytic activity could be demonstrated.

b) Production of Interferon Gamma by Peptide-Stimulated T Lymphocytes

In another experiment it was shown that the cytotoxic T lymphocytes lysing the T2 cells loaded with peptide FPSLREAAL (SEQ-ID NO. 114) also expressed interferon gamma which has been described as a reliable marker for activation of T cells.

In FIG. 2, the results of the measurements are shown, with KM22 and JY cells being tested. The same abbreviations as in FIG. 1 were used, with “CD8+” describing T lymphocytes expressing the receptor molecule CD8 on the cell surface.

To detect IFN gamma, 1×10⁵ effector cells and stimulator cells that have been pulsed with peptide were grown in T cell medium on 96-well plates (T cell medium: RPMI 1640 with 25 mM HEPES (Gibco/Invitrogen, Karlsruhe, Germany; supplemented with 10% heat-inactivated human AB serum (CC pro, Neustadt/W., Germany; 2 mM L-glutamine, 50 U/mL penicillin, 50 µg/mL streptomycin and 20 µg/mL gentamycin (all from BioWhittaker). The loading with peptides was conducted in X-Vivo 15 medium with the respective peptides für approx. 2 hrs at 37° C.

After 1 to 2 hrs GolgiStop (Becton Dickinson) was added and incubated for another 4 to 5 hrs. Then, the cells were permeabilized and stained by using the Cytotfix/Cytoperm Plus kit as well as anti-CD4-FITC, anti-IFN-γ-PE and anti-CD8-PerCP according to the manufacturer’s recommendations (Becton Dickinson). The cytometric analysis was performed using a FACSCalibur cytometer.

As can be seen from FIG. 2, T lymphocytes binding to HLA-B*0702/FPSLREAAL (SEQ ID NO: 114) tetramer (=specific T lymphocytes, “Tet+”) produce interferon gamma, when they are stimulated with KM22 or JY cells, each pretreated with various amounts of interferon gamma and loaded with peptide with SEQ ID NO. 114 (see FIG. 2, “KM22+FPSLREAAL (SEQ ID NO: 114)” and “JY+FPSLREAAL (SEQ ID NO: 114)”, each pretreated with 5 or 25 pM INF). In contrast, unspecific T lymphocytes (which do not bind to the HLA-B*0702/FPSLREAAL (SEQ ID NO: 114) tetramer) do not produce any interferon gamma (=“Tet-”).

Furthermore, FIG. 2 shows that neither the specific (=“Tet+”) nor the unspecific (“Tet-”) T lymphocytes produced interferon gamma if they were stimulated with an unspecific control peptide (in FIG. 2 as an example: APRTVALTA, SEQ ID NO. 585) (see FIG. 2 for “Tet+n and “Tet-”, respectively: “KM22+APRTVALTA (SEQ ID NO. 585)” and “JY+APRTVALTA (SEQ ID NO. 585)”, each pretreated with 25 µM INF).

c) Peptide-Specific Stimulation of CD8-Positive T Cells

For further determination of the peptide-specific stimulation of CD8-positive T cells the peptide with sequence LAALPHSCL (SEQ ID NO. 448) from protein RGS-5 and the control peptide with sequence ELAGIGILTV (SEQ ID NO. 578) from melanoma antigen MELAN-A (position 26-35, modified by an amino acid exchange of the alanine at position 27 by leucine) were synthesized using standard Fmoc chemistry, with the control peptide also binding to the HLA allele A*02. Biotinylated recombinant A*02 molecules and fluorescent MHC tetramers were generated as described by Altman et al. (“Phenotypic analysis of antigen-specific T lymphocytes”, Science 274:94, 1996). To generate artificial antigen presenting cells (“APCs”), streptavidin-coated polystyrene particles (5.6 µm diameter) with a binding capacity of 0.064 µg biotin-FITC/mg microspheres (Bangs Laboratories, Fishers, Ill., USA) were resuspended with 2×10⁶ particles/mL in a buffer containing the biotinylated MHC and the antibodies, and incubated for 30 min. at room temperature.

For the antigen-specific in vitro stimulation of the human CD8 T cells, PBMC from fresh buffy coat were isolated by standard gradient separation. Untreated CD8 T cells were concentrated by negative depletion using MACS (Miltenyi Biotec, Bergisch Gladbach, Germany). The in vitro stimulations were performed on 24-well plates with 5×10⁶ responder cells and 1×10⁶ beads or 1×10⁶ irradiated APCs per well in 1.5 mL T cell medium (compare supra). 5 ng/mL human IL-12 p70 (R&D Systems, USA) were added together with microspheres. After 3 to 4 days co-incubation at 37° C., fresh medium and 20 U/mL human IL-2 (R&D Systems, USA) were added, and the cells were incubated for another 3 to 4 days. This stimulation cycle was repeated twice.

For the cell surface and intracellular cytometric analysis, tetramer analyses with fluorescent MHC tetramers plus anti-CD8 antibodies (hybridoma UKT8) were conducted on a four-color FACSCalibur (Becton Dickinson).

The results of these analyses are shown in FIG. 3. It can be seen that the RGS-5 peptide with SEQ ID NO. 448 specifically stimulates human CD8-positive T cells. In FIG. 3, in the left column, the analysis of PBMC T cells is shown that have

been stimulated twice with a control peptide with the sequence ELAGIGILTV from melan-A (SEQ ID NO. 578), as described above.

The right column shows the analyses of T cells that have been stimulated with the RGS-5 peptide with the sequence LAALPHSCL (SEQ ID NO. 448).

In the top left of FIG. 3 is shown that CD8-positive α -axis) T cells stimulated with melan-A peptide/MHC-A*02 tetramer complexes do not bind to MHC-A*02 tetramers complexed with the peptide with the sequence LAALPHSCL (SEQ ID NO. 448) (y-axis).

In the top right of FIG. 3 is shown that CD8-positive T cells, stimulated with RGS-5 peptide with the sequence LAALPHSCL/MHC-A*02 tetramer complexes, bind to MHC-A*02 tetramers complexed with the peptide with the sequence LAALPHSCL (SEQ ID NO. 448) (y-axis). The double-stained (double-positive) cells are shown in the upper right quadrant.

In FIG. 3, left middle, is shown that CD8-positive T cells (x-axis) stimulated with melan-1 peptide/MHC-A*02 tetramer complexes, bind to MHC-A*02 tetramers complexed with the peptide with the sequence ELAGIGILTV (SEQ ID NO. 579) from melan-A (y-axis). The double stained (double positive) cells are shown in the upper right quadrant. In the right middle is shown that CD8-positive T cells, stimulated with complexes from RGS-5 peptide with the sequence LAALPHSCL and MHC-A*02 tetramers, not bind to MHC-A*02 tetramers complexed with the peptide with the sequence ELAGIGILTV (SEQ ID NO. 579) from melan-A (y-axis).

In the bottom row of FIG. 3, on the left hand side, the proportional numbers of the melan-A/MHC-A*02-specific T cells are shown by double staining with the two applied MHC tetramer-peptide complexes (melan-A/MHC-A*02 and RGS-5/MHC-A*02). After prior stimulation with melan-A peptide/MHC-A*02 tetramer complexes bound on artificial antigen presenting cells, 19.3% of the stimulated cells bind specifically to the MHC tetramer complex of melan-A peptide and HLA-A*02. On the bottom right hand side, the proportional numbers of the RGS-5/MHC-A*02-specific T cells are shown by double staining with the two applied MHC tetramer complexes (melan-A/MHC-A*02 and RGS-5/MHC-A*02). After prior stimulation with RGS-5 peptide/MHC-A*02 tetramer complexes bound on artificial antigen presenting cells, 8.0% of the stimulated cells bind specifically to the MHC tetramer complex of RGS-5 peptide with the sequence LAALPHSCL (SEQ ID NO. 448) and HLA-A*02.

d) Detection of Peptide-Specific T Cells in Blood from Renal Cell Carcinoma Patients

In further experiments, peptide-specific T cells from blood from renal cell carcinoma patients previously immunized with peptide-loaded autologous dendritic cells could be detected.

For this detection, a quantitative real-time polymerase chain reaction (RT-PCR) was performed. This RT-PCR was conducted as described by Kammula et al. (Kammula et al., Journal of Immunology 163:6867, 2000). For this, PBMCs were thawed in T cell medium, plated out with 1×10^6 cells in 500 μ L medium and incubated over night with 5% CO₂ at 37° C. Then, the synthetic peptides were added with 5 μ g/mL for 3 hours, and then an RNA extraction with Trizole (Invitrogen, Karlsruhe, Germany) was performed. The cDNA was transcribed using random hexamer primers (Amersham Biosciences, Freiburg, Germany) and M-MLV reverse transcriptase (Promega GmbH, Mannheim, Germany).

The quantitative RT-PCR was performed on an "ABIPrism 7000 Sequence Detection System" (Applied Biosystems,

Darmstadt, Germany) in duplicate in respect to IFN gamma mRNA and CD8 mRNA, using the Taqman PCR master mix (Applied Biosystems), specific primers and fluorescent probes.

The results represent the copy number of IFN gamma mRNA, with each sample being normalized regarding the CD8 mRNA copy number (used as reference gene product) (stimulation index).

The gene expression in presence of the tested peptides is relative to the gene expression obtained in presence of the controls (HLA-A*02 epitope derived from HIV1 pol with the sequence ILKEPVHGV, SEQ ID NO. 579) (copy number of the control was set to 1).

In FIG. 4 the results of these studies are shown. The diagram in FIG. 4 shows the ex vivo T cell activation after immunization of the patient RCC98 at the University Hospital in Tübingen with nine HLA-binding peptides. The first two out of 11 column blocks show the negative and positive controls of the T cell experiment. The error bars represent the standard deviation. As mentioned above, the HIV peptide with the sequence ILKEPVHGV (from the viral antigen HIV1 pol, position 896-904; SEQ ID NO. 579) was used as negative control. The negative control did not lead to a T cell response if the patient was seronegative for HIV. As a positive control, a mixture of peptides from influenza matrix 58-66 (GILGFVFTL; SEQ ID NO. 580), HCMVA pp 65 495-503 (NLVPMVATV; SEQ ID NO. 581), EBNA6-EBV 284293 (LLDFVRFMGV; SEQ ID NO. 582), IE63-EBV 259-267 (GLCTLV AML; SEQ ID NO. 583), and LMP2-EBV 294-302 (CLGGLTMTV; SEQ ID NO. 584) was used, with which as very strong T cell response could be expected ("posmix"; Maximum: stimulation index 43.6). All control peptides for PBMC stimulation were used in a concentration of 5 μ g/mL. The background was defined as standard deviation of the negative control (stimulation index 1.35, shown as horizontal dashed line).

In FIG. 4, the next nine column blocks of the diagram show the T cell activations measured against nine immunized peptides. These nine peptides were administered together subcutaneously, altogether seven times in increments of 14 days, loaded onto autologous dendritic cells. Therefore, each column block consists of eight columns (before the 1st immunization, after the 1st immunization, after the 2nd immunization, etc.). Therefore, each column block shows the progression of the T cell responses in the course of the immunizations.

Starting after the 3rd immunization already, strong T cell responses were obtained for GLASFKSFLK (RGS-5 74-83, SEQ ID NO. 153) and SLLTSSKGQLQK (ADFP 369-380, SEQ ID NO. 289), whereby for the last peptide the T cell responses increased after the 4th immunization. Such fluctuations of the T cell response during the course of an immunization therapy are known from other patients as well.

For IARNLTQQL (ADFP 313-321; SEQ ID NO. 233), GPALGRSFL (TNFSF7 78-86, SEQ ID NO. 577) the T cell responses were clearly in the background, and were weaker for a known pan-HLA DR-binding (PADRE) peptide. For these three peptides, an increase of the T cell response was also observed during the course of the immunization therapy (dotted lines). This confirmed that these three latter peptides have elicited a positive T cell response.

The patient was immunized as part of a registered clinical study at the University Hospital in Tübingen, Germany. The clinical study was applied and approved in written form by the Ethical Committee of the University of Tübingen, Germany. The study was conducted according to the rules and regulations of the German Medicines Act (Arzneimittelgesetz) and the good clinical practice (GCP).

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In summary, the inventors were thereby able to show that the identified peptides represent promising substances as part of an immunotherapy for a variety of (tumor) diseases.

EXAMPLE 3

Tetramer analysis of the microsphere-driven proliferation of B*0702/IARNLTQQL (SEQ ID NO. 233)-specific CD8+ lymphocytes from peripheral blood (see FIG. 5).

1×10^6 CD8+ enriched PBMCs per well from six healthy HLA-A*0201+ donors HD155, HD159, HD161, HD167, 00168 and 00177, were stimulated weekly with microspheres coupled to anti-CD28 plus irrelevant antigen ("irrelevant stimulation"), tumor antigen B*0702/IARNLTQQL with high density ("HD") or tumor antigen B*0702/IARNLTQQL with low density ("LD") as previously shown [Walter, S, et al. Cutting Edge: Predetermined avidity of human CD8 T cells

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expanded on calibrated MHC/anti-CD28-coated microspheres. J. Immunol. 171 (10):4974-8, 2003] with minor modifications. After three stimulations in vitro, individual wells were stained with antibody CD8 plus tetramer B*0702/IARNLTQQL. Each dot represents the percentage of tetramer+among CD8+ lymphocytes from one well.

Based on the distribution of observed responses after irrelevant stimulation in individual donors, a significant threshold was calculated, and shown by a horizontal red line using the following formula:

$$\text{Threshold} = \text{upper limit of 95\% confidence interval for the mean} + 3 \times \text{upper limit of 95\% confidence interval for the standard deviation}$$

The numbers in the diagrams show the number of significantly positive wells among total wells for the indicated condition.

TABLE 1

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
Sequences of NCH359			
1. VPDSSGPERIL	78-88 HNRPK	NP_002131.2	SEQ ID NO. 1
2. GLAPSIRTK	1510-1518 TNC	NP_002151.1	SEQ ID NO. 2
3. RLFEPHLYR	149-157 FAM20C	NP_064608.1	SEQ ID NO. 3
4. TPSEHPVL	381-389 HGRG8	NP_057342.1	SEQ ID NO. 4
5. QIFVKTLTGK	2-11 RPS27A	AAH01392.1	SEQ ID NO. 5
6. SLMHSFILK	44-52 DNCL2A	NP_054902.1	SEQ ID NO. 6
7. YPHLHNAEL	127-135 SOX9	NP_000337.1	SEQ ID NO. 7
8. RLFVGSIPK	244-252 SYNCRIP	NP_006363	SEQ ID NO. 8
9. RVFPDKGYSF	233-242 TIA1	NP_071320.1	SEQ ID NO. 9
10. SLYKKLEIK	554-562 SLC9A2	NP_003039.2	SEQ ID NO. 10
11. HPVSDHEATL	216-225 HLA-C	NP_002108	SEQ ID NO. 11
12. LPTRVDFSL	46-54 Symbol does not exist; Gene type: unnamed protein product	BAC87610	SEQ ID NO. 12
13. KSFGSAQEF AW	386-396 COPB2	NP_004757	SEQ ID NO. 13
14. SPSTSRTPLL	1026-1035 EGFR	NP_005219.2	SEQ ID NO. 14
15. STFDSPAHW	1149-1157 EGFR	NP_005219.2	SEQ ID NO. 15
16. APEEHPVLL	97-105 ACTB	NP_001092.1	SEQ ID NO. 16
17. RQITQVYGF	117-125 PPP6C	NP_002712.1	SEQ ID NO. 17

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
18. KVSDYILQH	1046-1054 ASTN2	NP_054729.3	SEQ ID NO. 18
19. KLLPSVVLK	2-10 DTR	NP_001936.1	SEQ ID NO. 19
20. GVLKKVIRH	23-31 TNC	NP_002151.1	SEQ ID NO. 20
21. KLFDAVSKF	40-49 ACSL4	NP_004449.1	SEQ ID NO. 21
22. ITVLTKPLPV	112-121 PTPRO	NP_002839.1	SEQ ID NO. 22
23. HPVHPDIKL	130-138 PIAS1	NP_057250.1	SEQ ID NO. 23
24. IPRAALLPLL	3-12 PRSS11	NP_002766.1	SEQ ID NO. 24
25. ATNRITVTW	254-262 PIASY	NP_056981.2	SEQ ID NO. 25
26. KIADRFLLY	29-37 LMO4	NP_006760.1	SEQ ID NO. 26
Sequences of NCH361			
27. DHDPVDKIVL	150-159 HNRPA2B1	NP_002128.1	SEQ ID NO. 27
28. DHHQEVIGF	165-173 C9ORF10	NP_055427.2	SEQ ID NO. 28
29. IHDLDNISF	188-196 PSMB2	NP_002785.1	SEQ ID NO. 29
30. DHINDIIKI	834-842 IQGAP1	NP_003861.1	SEQ ID NO. 30
31. DHMRFISEL	355-363 CYFIP1	NP_055423.1	SEQ ID NO. 31
32. THSLPVVVI	456-464 STAT3	NP_003141.2	SEQ ID NO. 32
33. MPVGPDAILRY	929-939 BAT3	NP_004630.2	SEQ ID NO. 33
34. RLDDAIHVL	406-414 TCF12	NP_003196.1	SEQ ID NO. 34
35. QHEGTVNIF	1953-1961 PTPRZ1	NP_002842.1	SEQ ID NO. 35
36. ETVNIWTHF	48-56 PAQR6	NP_940798	SEQ ID NO. 36
37. VHILDTEF	195-203 KLHDC2	NP_055130.1	SEQ ID NO. 37
38. QTPDFTPTKY	607-616 ZHX3	NP_055850.1	SEQ ID NO. 38
39. RHVEVFELL	133-141 MPDZ	NP_003820.1	SEQ ID NO. 39
40. TTIDIGVKY	136-144 CNN3	NP_001830.1	SEQ ID NO. 40
41. DLIEHFSQF	113-121 HNRPA0	NP_006796.1	SEQ ID NO. 41
42. ETVWRLEEF	65-73 HLA-DRA	NP_061984	SEQ ID NO. 42

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
43. DVLESVLL	176-184 AP2M1	NP_004059.2	SEQ ID NO. 43
44. IHDDFVTF	466-474 AEBP1	NP_001120.2	SEQ ID NO. 44
45. IHIPINNII	57-65 Sec61G	NP_055117.1	SEQ ID NO. 45
46. IHLIDPNTL	281-289 CGI-07	NP_057022.2	SEQ ID NO. 46
47. IHVIGGNDV	1016-1024 KIAA1268	XP_291055.1	SEQ ID NO. 47
48. KAFQKIVVL	291-299 BZW1	NP_055485.2	SEQ ID NO. 48
49. YQDLLNVKL	349-357 GFAP	NP_002046.1	SEQ ID NO. 49
50. GHYEVAELL	728-736 TNKS	NP_003738.1	SEQ ID NO. 50
51. LVVYPWTQRF	33-42 HBB	NP_000509.1	SEQ ID NO. 51
52. MHLRQYELL	386-393 GNAS	NP_000507.1	SEQ ID NO. 52
53. EAIEQILKY	149-157 FLJ10539	NP_060600.1	SEQ ID NO. 53
54. DVAEGDLIEHF	108-118 HNRPA0	NP_006796.1	SEQ ID NO. 54
55. DVLQKIKY	191-198 EPS8L1	NP_060199.2	SEQ ID NO. 55
56. DAFPMEIRQY	24-33 STAT1	NP_009330.1	SEQ ID NO. 56
57. DVISNIETF	281-289 SOX9	NP_000337.1	SEQ ID NO. 57
58. DVIRLIMQY	9-17 SMU-1	NP_060695.1	SEQ ID NO. 58
59. DVIERVIQY	792-800 IDN3	NP_056199.1	SEQ ID NO. 59
60. DVIAQGIGKL	53-62 RPLP2	NP_000995.1	SEQ ID NO. 60
61. DVFNEKGWNY	94-103 PBEF1	NP_005737.1	SEQ ID NO. 61
62. THLDSVTKI	254-262 C6.1A	NP_077308.1	SEQ ID NO. 62
63. DVAGIIADY	294-302 KIAA1238	XP_048675.4	SEQ ID NO. 63
64. TAAPFPFHL	536-544 TBX2	NP_005985.2	SEQ ID NO. 64
65. DTLDKVFTY	86-94 ACSL3	NP_004448.2	SEQ ID NO. 65
66. DTISPTLGF	42-50 ARL2	NP_001658.1	SEQ ID NO. 66
67. DTGILDSIGRF	35-45 MBP	NP_002376.1	SEQ ID NO. 67

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
68. VVYPWTQRF	34-42 HBB	NP_000509.1	SEQ ID NO. 68
69. EVVAGIKEYF	128-137 MORF4	NP_006783.2	SEQ ID NO. 69
70. SSVPGVRL	72-80 VIM	NP_003371.1	SEQ ID NO. 70
71. SVVDAIGISRF	364-374 FLJ45273	BAC86883.1	SEQ ID NO. 71
72. EVIPPMKEF	115-123 NDUFB6	NP_002484.1	SEQ ID NO. 72
73. EVIPPYYSY	152-160 TTRAP	NP_057698.2	SEQ ID NO. 73
74. EVNGLISMY	284-292 U5-116KD	NP_004238.2	SEQ ID NO. 74
75. EVIDLMIKEY	57-66 PHF10	NP_060758.1	SEQ ID NO. 75
76. EVVAGIKEY	128-136 MORF4	NP_006783.2	SEQ ID NO. 76
77. EVFPLAMNY	76-84 CCND1	NP_444284.1	SEQ ID NO. 77
78. EVVERVLTF	28-36 FBXO22	NP_036302.1	SEQ ID NO. 78
79. SHSPFGLDSF	1251-1260 JMJD1B	NP_057688.2	SEQ ID NO. 79
80. FGVDRAILY	457-465 ITGAV	NP_002201.1	SEQ ID NO. 80
81. SHSDYLLTI	76-84 SOCS2	NP_003868.1	SEQ ID NO. 81
82. SHLDYDITL	511-519 KIAA0794	XP_087353.5	SEQ ID NO. 82
83. SHFVSDVVI	63-71 GNB2L1	NP_006089.1	SEQ ID NO. 83
84. EVTELLARY	155-163 POLR2E	NP_002686.2	SEQ ID NO. 84
85. ETADTLMGLRY	425-435 GFPT1	NP_002047.1	SEQ ID NO. 85
86. EHAHLIVVL	662-670 ABCB9	NP_062570.1	SEQ ID NO. 86
87. EHSLVIDTL	53-61 PFDN2	NP_036526.2	SEQ ID NO. 87
88. EIAEAYLGY	129-137 HSPA1A	NP_005336.2	SEQ ID NO. 88
89. EIYGGSDSRF	42-51 SF3B1	NP_036565.1	SEQ ID NO. 89
90. ELIAKIPNF	73-81 SET	NP_003002.1	SEQ ID NO. 90
91. EVIKNFIQY	50-58 EIF3S6IP	NP_057175.1	SEQ ID NO. 91
92. ETADTLLALRY	426-436 GFPT2	NP_005101.1	SEQ ID NO. 92

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
93. EVVSEPFRRSF	581-590 PSMD2	NP_002799.3	SEQ ID NO. 93
94. ETFDAGLQAF	2019-2028 SPTAN1	NP_003118.1	SEQ ID NO. 94
95. SHSQMQLI	164-172 ADRM1	NP_008933.2	SEQ ID NO. 95
96. ETVRELTEF	255-263 PPARD	NP_006229.1	SEQ ID NO. 96
97. EVAATEIKM	10-18 HNRPM	NP_005959.2	SEQ ID NO. 97
98. EVAAVLLHF	214-222 SEC10L1	NP_006535.1	SEQ ID NO. 98
99. EVFDKTYQF	132-140 C6orf153	NP_149103.1	SEQ ID NO. 99
100. ELVKRILNF	174-182 DEK	NP_003463.1	SEQ ID NO. 100
101. AHDDGRWSL	95-103 FSCN1	NP_003079.1	SEQ ID NO. 101
102. SVVSVISRF	4-12 DAD1	NP_001335.1	SEQ ID NO. 102
103. SVVELINHY	132-140 PIK3R3	NP_003620.2	SEQ ID NO. 103
104. SVVDLINHY	397-405 PIK3R2	NP_005018.1	SEQ ID NO. 104
105. AHVDLIEKL	51-59 POLR2L	NP_066951.1	SEQ ID NO. 105
106. FHNELLTQL	97-105 BAIAP2	NP_006331.1	SEQ ID NO. 106
107. SVIEAVAHF	812-820 C6orf133	NP_056070.1	SEQ ID NO. 107
108. GHFEKPLFL	149-157 NTE	NP_006693.2	SEQ ID NO. 108
109. GHDASQITL	273-281 TH1L	NP_057481.2	SEQ ID NO. 109
110. SAVDFIRTL	293-301 STK17A	NP_004751.1	SEQ ID NO. 110
111. ISTEPVIRTF	989-997 C9orf10	NP_055427.2	SEQ ID NO. 111
112. GVIEKLLTSY	28-37 DIS155E	AAH32446	SEQ ID NO. 112
113. SHDLTLVNL	395-403 KIAA1706	NP_085139.1	SEQ ID NO. 113
Sequence of JY			
114. FPSLREAAL	294-302 MAGEA1	NP_004979.2	SEQ ID NO. 114
Sequences of RCC075			
115. SIFKQPVTK	250-258 MBD2	NP_003918.1	SEQ ID NO. 115
116. KPANRIAL	139-147 LGALS3	NP_002297.1	SEQ ID NO. 116

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
117. KLYEMILKR	174-182 ARL7	NP_005728.2	SEQ ID NO. 117
118. SLFSRLFGK	7-15 ARF4	NP_001651.1	SEQ ID NO. 118
119. KLFDKLLLEY	309-317 API5	NP_006586.1	SEQ ID NO. 119
120. SLFPNSPKWTSK	96-107 MMP7	NP_002414.1	SEQ ID NO. 120
121. LESLDQLEL	29-37 BAG2	NP_004273.1	SEQ ID NO. 121
122. VVNKVPLTGK	101-110 MGC17943	NP_689474.1	SEQ ID NO. 122
123. SVYDSVLQK	4470-4478 SYNE1	NP_149062.1	SEQ ID NO. 123
124. SVYVLRQK	39-47 MLSTD2	NP_115604.1	SEQ ID NO. 124
125. ILENIQRNK	557-565 ERCC2	NP_000391.1	SEQ ID NO. 125
126. GSYNKVFLAK	146-155 PSMD8	NP_002803.1	SEQ ID NO. 126
127. TESGLNVTL	6-14 PCBP1	NP_006187.1	SEQ ID NO. 127
128. TEHGVEVVL	612-620 SH2D3C	NP_005480.1	SEQ ID NO. 128
129. TEARFGAQL	327-335 KRT19	NP_002267.2	SEQ ID NO. 129
130. TLADILLYY	114-122 EEF1E1	NP_004271.1	SEQ ID NO. 130
131. LVFPSEIVGK	133-142 RPS7	NP_001002.1	SEQ ID NO. 131
132. VLFKALNPK	709-718 ABCC3	NP_003777.2	SEQ ID NO. 132
133. RPFLVRPAL	91-99 AKR1C3	NP_003730.4	SEQ ID NO. 133
134. VPNQRLTLL	576-585 ACSL4	NP_004449.1	SEQ ID NO. 134
135. QLYWSPRK	5-13 RPS29	NP_001023.1	SEQ ID NO. 135
136. SVYVYKVLK	39-47 H2BFS	NP_059141.1	SEQ ID NO. 136
137. REKLQEML	186-194 VIM	NP_003371.1	SEQ ID NO. 137
138. RVFSGLVSTGLK	415-426 EEF2	NP_001952.1	SEQ ID NO. 138
139. KPRDVSSVEL	1939-1948 SPTBN1	NP_003119.1	SEQ ID NO. 139
140. NEFPEPIKL	184-192 RAB7	NP_004628.4	SEQ ID NO. 140
141. KTYGEIFEK	106-114 NDUFC2	NP_004540.1	SEQ ID NO. 141
142. RILFFNTPK	196-204 PSMD8	NP_002803.1	SEQ ID NO. 142

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
143. RVFPWFSVK	1764-1772 MLL	NP_005924.1	SEQ ID NO. 143
144. SEVQDRVML	54-62 CGI-127	NP_057145.1	SEQ ID NO. 144
145. SLWDRLIFH	410-418 ACSL1	NP_001986.2	SEQ ID NO. 145
146. KVYNIQIRY	468-476 LCP2	NP_005556.1	SEQ ID NO. 146
147. RLLEMILNK	171-179 AKR1C2	NP_001345.1	SEQ ID NO. 147
148. SEDKKNIL	41-49 CFL1	NP_005498.1	SEQ ID NO. 148
149. YEELVRMVL	106-114 MYL6	NP_524147.1	SEQ ID NO. 149
150. GEITGEVHM	1758-1766 FLNB	NP_001448.1	SEQ ID NO. 150
151. IVAGSLITK	183-191 FNBP3	AAH11788	SEQ ID NO. 151
152. APRIITGPAPVL	225-236 QKI	NP_006766.1	SEQ ID NO. 152
153. GLASFKSFLK	74-83 RGS5	NP_003608.1	SEQ ID NO. 153
154. FPNSPKWTSK	98-107 MMP7	NP_002414.1	SEQ ID NO. 154
155. FVIETARQL	49-57 C14orf4	NP_078772.1	SEQ ID NO. 155
156. IEVDGKQVEL	46-55 RHOA	NP_001655.1	SEQ ID NO. 156
157. GELTGEVRM	1776-1786 FLNC	NP_001449.1	SEQ ID NO. 157
158. GESDDSILRL	63-72 RPS21	NP_001015.1	SEQ ID NO. 158
159. GEGDFLAEGGGV	23-34 FGA	NP_000499.1	SEQ ID NO. 159
160. DNFPQSL	690-696 CACNA1C	NP_000710.3	SEQ ID NO. 160
161. GLTDVILYH	269-277 SYNCRIP	NP_006363.3	SEQ ID NO. 161
162. AALVASGVALY	247-257 P2RY11	NP_002557.2	SEQ ID NO. 162
163. AEIRHVLVTL	107-116 MYL6	NP_066299.2	SEQ ID NO. 163
164. AEPPEVEVL	10-18 PGR1	NP_150638.1	SEQ ID NO. 164
165. AIIDHIFASK	256-265 KIS	NP_787062	SEQ ID NO. 165
166. ALLDGSNVVFK	48-58 HKE2	NP_055075.1	SEQ ID NO. 166
167. AMLDTVVFK	302-310 PSMD14	NP_005796.1	SEQ ID NO. 167

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
168. APARLFALL	2-10 SDC4	NP_002990.2	SEQ ID NO. 168
169. AVNAHSNILK	248-257 IMMT	NP_006830	SEQ ID NO. 169
170. APRPGVLLL	8-16 ELN	NP_000492	SEQ ID NO. 170
171. EAFPLRVID	749-757 MAN2A2	NP_006113.1	SEQ ID NO. 171
172. GVADKILKK	211-219 NMI	NP_004679.1	SEQ ID NO. 172
173. AVFPKPFVEK	189-198 KIAA0377	NP_055474.2	SEQ ID NO. 173
174. VVYVGGILTK	258-267 UGT8	NP_003351.2	SEQ ID NO. 174
175. HLEDIVRQK	1751-1759 TRIP12	XP_376178.1	SEQ ID NO. 175
176. VTLTLVILSY	207-216 LOC390323	XP_372460.1	SEQ ID NO. 176
177. SLLSLVTGLK	reading frame +3 Symbol does not exist; Gene type: expressed sequence tag	CD105815	SEQ ID NO. 177
178. QTYVGITEK	687-695 U5-200KD	NP_054733.2	SEQ ID NO. 178
179. HEDKIRVVL	210-218 EHD2	NP_055416.2	SEQ ID NO. 179
180. QISIPFLLK	208-216 C9orf88	AAH01979	SEQ ID NO. 180
181. GLMGFIVYK	39-37 C14orf2	NP_004885.1	SEQ ID NO. 181
182. FADQEVRS�	950-958 PIK3C2A	NP_002636.1	SEQ ID NO. 182
183. IVALILSTK	147-155 ATP6V0C	NP_001685.1	SEQ ID NO. 183
184. GTYAPAEVPK	22-31 AKR1C1	NP_001344.2	SEQ ID NO. 184
185. GTMTGMLYK	161-169 TIMM23	NP_006318.1	SEQ ID NO. 185
186. SLAEILLKK	439-447 IPO8	NP_006381.1	SEQ ID NO. 186
187. KLTYYIYIQK	Reading frame +1 Symbol does not exist; Gene type: expressed sequence tag	AA295205	SEQ ID NO. 187
188. KLLNYAPLEK	58-67 POLR2L	NP_055427	SEQ ID NO. 188
189. GTLPHPLQR	182-190 SCNN1A	NP_001029.1	SEQ ID NO. 189
190. GLYEFFRAK	680-688 CHERP	NP_006378.2	SEQ ID NO. 190

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
191. KEPEINTTL	226-234 FLJ34588	NP_689939.1	SEQ ID NO. 191
192. HASDRIIAL	330-338 TKT	NP_001055.1	SEQ ID NO. 192
Sequences of RCC098			
193. RPTLWAAAL	5-13 IGFBP3	NP_000589.1	SEQ ID NO. 193
194. APSRPRLSL	11-19 C19orf28	NP_778148.1	SEQ ID NO. 194
195. ASDFITKMDY	362-371 GSN	NP_000168.1	SEQ ID NO. 195
196. EERVINEEY	13-21 RBBP4	NP_005601.1	SEQ ID NO. 196
197. ATGSWDSFLK	328-337 GNB1	NP_002065.1	SEQ ID NO. 197
198. RMFDMGFY	411-419 DDX42	NP_031398.2	SEQ ID NO. 198
199. APLLRWVL	265-272 HMOX1	NP_002124.1	SEQ ID NO. 199
200. ALRPSTSRSLY	43-53 VIM	NP_003371.1	SEQ ID NO. 200
201. RQIPYTMK	225-233 SLC25A3	NP_002626.1	SEQ ID NO. 201
202. AETHIVLLF	267-275 DKFZpS64K142	NP_115497.3	SEQ ID NO. 202
203. RVHAYIISY	305-313 EHD2	NP_055416.2	SEQ ID NO. 203
204. AVIVLVENFYK	11-21 S100A16	NP_525127.1	SEQ ID NO. 204
205. SEELLREHY	61-69 NME3	NP_002504.2	SEQ ID NO. 205
206. RADGNFLLY	368-376 KIAA0930	XP_047214.6	SEQ ID NO. 206
207. SEFTGVWKY	83-91 PDCD6	NP_037364.1	SEQ ID NO. 207
208. SIDRTVMYY	389-397 SLC3A1	NP_000332.1	SEQ ID NO. 208
209. ETDLLDIRSEY	463-473 ANXA11	NP_001148.1	SEQ ID NO. 209
210. ESYEALPOH	397-405 DNMT1	NP_001370.1	SEQ ID NO. 210
211. SEEEIREAF	82-90 CALM2	NP_001734.1	SEQ ID NO. 211
212. KVMQONLVY	329-337 CRTAP	NP_006362.1	SEQ ID NO. 212
213. DEKSIITY	262-269 SPTBN1	NP_003119.1	SEQ ID NO. 213
214. EEIEGFRY	421-428 DDX56	NP_061955.1	SEQ ID NO. 214
215. MENLFINRF	186-194 ALOX5	NP_000689.1	SEQ ID NO. 215

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
216. MEKIWHHTF	82-90 ACTB	NP_001092.1	SEQ ID NO. 216
217. MEHAMETMMF	5-14 S100GA10	NP_002957.1	SEQ ID NO. 217
218. EEIFNLKF	353-542 GTF2I	NP_001509.2	SEQ ID NO. 218
219. LVLMVLYLI	153-161 PIGM	NP_660150.1	SEQ ID NO. 219
220. EELQQKVS	285-293 STAT3	NP_003141.2	SEQ ID NO. 220
221. LRVAPEEHPVL	94-104 ACTB	NP_001092.1	SEQ ID NO. 221
222. DGHLFQVEY	13-21 PSMA7	NP_002783.1	SEQ ID NO. 222
223. LAELAHREY	14-22 OGT	NP_003596.2	SEQ ID NO. 223
224. NEADVHGIYF	651-660 CP	NP_000087.1	SEQ ID NO. 224
225. KVFQEPLFY	114-122 CTSL	NP_001903.1	SEQ ID NO. 225
226. GVLAVVKEK	171-179 NK4	NP_004212.3	SEQ ID NO. 226
227. HEALLYVVL	738-746 KIAA0746	NP_056002.1	SEQ ID NO. 227
228. HEMIILKL	3489-3496 KIAA1554	XP_290768.3	SEQ ID NO. 228
229. IVPANFPSL	443-451 C9orf3	NP_116212.3	SEQ ID NO. 229
230. HLDLGILYY	162-170 DPAGT1	NP_001373.2	SEQ ID NO. 230
231. ITDSAGHILY	76-85 TMP21	NP_006818.2	SEQ ID NO. 231
232. HTDDPLTWDY	267-276 HCA66	NP_060898.1	SEQ ID NO. 232
233. IARNLTQQL	313-321 ADFP	NP_001113.2	SEQ ID NO. 233
234. IDQTALAVY	1087-1095 TPP2	NP_003282.1	SEQ ID NO. 234
235. LEDVVIERY	41-49 FKBP10	NP_068758.2	SEQ ID NO. 235
236. QIASFILLR	316-324 HIMAP4	NP_060796.1	SEQ ID NO. 236
237. DEHYILTF	550-557 OSBPL9	NP_078862.2	SEQ ID NO. 237
238. DEIGLPKIFY	124-133 IQGAP1	NP_003861.1	SEQ ID NO. 238
239. DEIVRINGY	132-140 USH1C	NP_005700.1	SEQ ID NO. 239
240. DEKLLYDTF	112-120 SF3B4	NP_005841.1	SEQ ID NO. 240

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
241. RIIETLALK	9-18 ARPC2	NP_005722.1	SEQ ID NO. 241
242. GTDELRLLY	107-115 FLJ12525	NP_112483.1	SEQ ID NO. 242
243. DELEIIEGMPK	209-219 HSPD1	NP_002147.2	SEQ ID NO. 243
244. QVDPLSALKY	649-658 MKLN1	NP_037387.2	SEQ ID NO. 244
245. DELHYLEVY	72-80 VPS35	NP_060676.2	SEQ ID NO. 245
246. EEFELLGKAY	81-90 EIF3S8	NP_003743.1	SEQ ID NO. 246
247. QLEDGRTLSDY	49-59 UBB	NP_061828.1	SEQ ID NO. 247
248. DEFLWREQF	42-50 FBXW5	NP_061871.1	SEQ ID NO. 248
249. DEMLSRGF	185-192 EIF4A1	NP_001407.1	SEQ ID NO. 249
250. DEPLLKHWEF	196-205 HLA-DRA	NP_061984.1	SEQ ID NO. 250
251. PSRDSLPLPV	418-427 GPSM1	NP_056412.2	SEQ ID NO. 251
252. NLRETNLDSL	422-432 VIM	NP_003371.1	SEQ ID NO. 252
253. DEVKFLTVL	191-199 ANXA4	NP_001144.1	SEQ ID NO. 253
254. NEVEKTMEY	440-448 RSHL2	NP_114130.3	SEQ ID NO. 254
255. DEVQVVRGHY	53-62 RPL26	NP_000978.1	SEQ ID NO. 255
256. DEWLKPELF	296-304 CGI-26	NP_057038.1	SEQ ID NO. 256
257. DEYSLVREL	125-133 TLN1	NP_006280.2	SEQ ID NO. 257
258. NEFEATQKL	343-351 NFIL3	NP_005375.1	SEQ ID NO. 258
259. DELQOPLLEL	704-712 STAT2	NP_005410.1	SEQ ID NO. 259
260. DVVMTQSPLSL	20-30 IGKV@	S40322	SEQ ID NO. 260
261. SEREAIEVF	358-366 GBP2	NP_004111	SEQ ID NO. 261
262. RYFYHQEEY	21-29 HLA-DRB1	CAA09468	SEQ ID NO. 262
263. TSALPIIQK	63-71 ADFP	NP_001113.2	SEQ ID NO. 263
264. RVQEAVESMVK	8-18 FLJ14668	AAH14975	SEQ ID NO. 264
265. TVMELVKIIYK	237-247 LACTB2	NP_057111.1	SEQ ID NO. 265

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
266. RLLQKVLAY	103-111 FLJ10211	BAA91493	SEQ ID NO. 266
267. RIHFPLATY	264-272 K-ALPHA-1	NP_006073	SEQ ID NO. 267
268. VGGLKNTLVHRL	279-290 FLJ31579	NP_695000.1	SEQ ID NO. 268
269. QAQADSLTVY	679-688 PCDHB5	AAP97251.1	SEQ ID NO. 269
270. VLDPYLLKY	34-42 MRPS17	NP_057053.1	SEQ ID NO. 270
271. IFSPFPPLFY	83-92 FKSG63	AAK08108.1	SEQ ID NO. 271
272. TELLKKEGF	260-268 SND1	NP_055205.1	SEQ ID NO. 272
273. GLFEVGAGWIGK	235-246 HSD17B4	NP_000405.1	SEQ ID NO. 273
274. YEYKFGFEL	97-105 TXNIP	NP_006463.2	SEQ ID NO. 274
275. WPLWRLVSL	2-10 BGN	NP_001702.1	SEQ ID NO. 275
276. YIDEQFERY	121-129 NEDD5	NP_004395.1	SEQ ID NO. 276
277. YLDEKLALLNA	897-907 BAIAP3	NP_003924.2	SEQ ID NO. 277
278. DEHLITFF	1248-1255 US-200KD	NP_054733.2	SEQ ID NO. 278
279. DDFHIYVY	234-241 SPIN	NP_006708	SEQ ID NO. 279
280. APRTVLLLLL	5-13 HLA-A, -B or -C	AAL30417.1	SEQ ID NO. 280
281. APRTVALTALL	9-19 HLA-DPB1	NP_002112	SEQ ID NO. 281
282. FTDVNSILRY	58-67 EPRS	AAH58921	SEQ ID NO. 282
283. YSEEECRQY	61-69 GNAI2	NP_002061.1	SEQ ID NO. 283
284. YSEKIVDMY	134-142 MYH11	NP_002465.1	SEQ ID NO. 284
285. YTDLLRLFY	68-77 PPP1CB	NP_002700.1	SEQ ID NO. 285
286. YVDPQFLTY	341-349 PJA1	NP_071763.2	SEQ ID NO. 286
287. HERTFLLEY	96-104 SNX6	NP_067072.2	SEQ ID NO. 287
288. SSVPGVRLQLQSVDFSL	72-88 VIM	NP_003371.1	SEQ ID NO. 288
289. SLLTSSKGQLQK	369-380 ADFP	NP_001113.2	SEQ ID NO. 289
290. SPRENILVSL	281-290 SCD	NP_005054.2	SEQ ID NO. 290

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
291. DEVDIKSRAAY	18-28 FTO	XP_051200.4	SEQ ID NO. 291
292. TSPSQSLFY	154-162 SLC11A1	AAH41787.1	SEQ ID NO. 292
293. YTETEPYHNY	392-401 LOC124245	NP_653205.2	SEQ ID NO. 293
294. SSVPGVRLQDSVDF	72-86 VIM	NP_003371.1	SEQ ID NO. 294
295. VALISPKDI	Reading frame -1 Symbol does not exist; Gene type: expressed sequence tag	AC079587.4	SEQ ID NO. 295
296. STDKAEYTFY	332-341 RBPSUH	NP_005340.2	SEQ ID NO. 296
297. VTEIFRQAF	250-258 GARNL1	BAA74907.1	SEQ ID NO. 297
298. SVLSPLLNK	380-388 EPS8	NP_004438.2	SEQ ID NO. 298
Sequences of RCC100			
299. RAFSSLGLLK	615-624 UMOD	NP_003352.1	SEQ ID NO. 299
300. FSKLRPLISK	243-252 PGBD3	NP_736609.1	SEQ ID NO. 300
301. RTFTWLVGK	353-361 MYO1C	NP_203693.2	SEQ ID NO. 301
302. KVANIILSY	1273-1281 FLJ21439	NP_079413.2	SEQ ID NO. 302
303. TMLARLASA	21-29 CSPG4	NP_001888.1	SEQ ID NO. 303
304. HELPLPHSV	39-47 EPAS1	NP_001421.2	SEQ ID NO. 304
Sequences of RCC103			
305. AVQRTLLEK	177-185 CD99	NP_002405.1	SEQ ID NO. 305
306. ETRPAGDGTFOKW	256-268 HLA-A	NP_002107	SEQ ID NO. 306
307. AVLSILPAIFQK	392-403 KIAA0033	XP_084530.5	SEQ ID NO. 307
308. EIAGHIMEF	848-856 PUM1	NP_055491.1	SEQ ID NO. 308
309. ELIRTIMGW	131-139 BAX	NP_004315.1	SEQ ID NO. 309
310. EVFPLKVFGY	45-54 ZNF258	AAH29439	SEQ ID NO. 310
311. ATPTSPIRVK	856-865 FLNA	NP_001447.1	SEQ ID NO. 311
312. AVLYQPLFDK	107-116 NAP1L1	NP_004528.1	SEQ ID NO. 312
313. EVVDFIQSKI	451-460 PPM1G	NP_817092	SEQ ID NO. 313

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
314. AVQEFGLARFK	142-152 PX19	NP_037369.1	SEQ ID NO. 314
315. EAIQDLWQW	282-290 NPM1	NP_002511.1	SEQ ID NO. 315
316. GVIRSLMAF	60-68 SF3B3	NP_036558.2	SEQ ID NO. 316
317. HIISGTCASW	241-250 TXNIP	NP_006463.2	SEQ ID NO. 317
318. GVIDVITKTW	261-270 MFTC	NP_110407.2	SEQ ID NO. 318
319. GVIDLIFEK	600-608 EIF4G1	NP_004944.2	SEQ ID NO. 319
320. GVCHIFASF	29-37 RPS14	NP_005608.1	SEQ ID NO. 320
321. GTYVSSVPR	242-250 HLA-DOA	NP_002110.1	SEQ ID NO. 321
322. GTAGLLEQWLK	329-339 DC12	NP_064572.1	SEQ ID NO. 322
323. HVITGLLEHY	133-142 SCRN2	NP_612364.1	SEQ ID NO. 323
324. GTADELVLHSW	176-186 LYPLAL1	NP_620149.1	SEQ ID NO. 324
325. EIKEVILEF	873-881 VPS13C	NP_060154	SEQ ID NO. 325
326. EEASLLHQF	741-749 SPTBN1	NP_003119.1	SEQ ID NO. 326
327. KLFIGGLSF	15-23 HNRPA1	NP_002127.1	SEQ ID NO. 327
328. DVVPAVRKW	134-142 MASA	NP_067027.1	SEQ ID NO. 328
329. DVTGVVRQW	200-208 TGFB1	NP_000651.1	SEQ ID NO. 329
330. DVKDYIQEY	2500-2508 KIAA1554	XP_290768.3	SEQ ID NO. 330
331. DVIDNDSWRLW	207-217 PAICS	NP_006443.1	SEQ ID NO. 331
332. DVFSSKGMTRW	90-100 RASSF6	NP_803876.1	SEQ ID NO. 332
333. DTVKKIESF	3197-3205 RANBP2	NP_006258.2	SEQ ID NO. 333
334. DLPSNHVIDRW	211-221 SKB1	NP_006100.2	SEQ ID NO. 334
335. DLIGHIVEF	726-734 PUM2	NP_056132.1	SEQ ID NO. 335
336. DKESQLEAY	106-114 LOC284680	NP_872387.1	SEQ ID NO. 336
337. EVIKLKGYSW	240-250 LDHA	NP_005557.1	SEQ ID NO. 337
338. GSSDVIIHR	519-527 KIAA1542	XP_290536.2	SEQ ID NO. 338
339. GTLDYILQR	158-166 FTO	XP_051200.4	SEQ ID NO. 339

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
340. EVDKRVHMTW	326-335 PSMD13	NP_002808.2	SEQ ID NO. 340
341. SVPYFLFQHW	197-206 SOAT1	NP_003092.3	SEQ ID NO. 341
342. SVVEISTLVQK	93-103 MRPL43	NP_115488.2	SEQ ID NO. 342
343. STFQQMWISK	352-361 ACTA2	NP_001604.1	SEQ ID NO. 343
344. TTIPHALLTW	1533-1542 BIG1	NP_006412.1	SEQ ID NO. 344
345. SAFLLLGLFK	419-428 TAPBP	NP_003181.3	SEQ ID NO. 345
346. NIGDEALIGRW	637-647 MAGED4	NP_110428.2	SEQ ID NO. 346
347. TVAFVPISGW	187-196 EEF1A1	NP_001393.1	SEQ ID NO. 347
348. ETVNLRSLGF	1930-1939 AIM1	XP_166300.3	SEQ ID NO. 348
349. MPKFSMPGF	72-80 AHNAK	BAC87652.1	SEQ ID NO. 349
350. EVMEIMSRF	98-106 POLH	NP_006493.1	SEQ ID NO. 350
351. EVMDVFLRF	695-703 CSG1cA-T	XP_376724.1	SEQ ID NO. 351
352. RLQEALNLF	265-273 GNAS	NP_000507.1	SEQ ID NO. 352
353. ETIDWKVFESW	174-184 CD74	NP_004346.1	SEQ ID NO. 353
354. ELMEHGVSWS	39-48 ELMO3	NP_078988.1	SEQ ID NO. 354
355. ASVAWAVLK	2-10 CASPR3	NP_387504.1	SEQ ID NO. 355
356. SVSPVVHVR	73-81 LOC92906	NP_612403.2	SEQ ID NO. 356
357. HVVDRDTEAW	27-36 FLJ35220	NP_775898.2	SEQ ID NO. 357
358. ETITGLRVW	6493-6501 NEB	NP_004534.1	SEQ ID NO. 358
359. RQLEDILSTY	77-86 DKFZp451J0118	NP_787048.1	SEQ ID NO. 359
360. AIAQAESLRYK	98-108 RPS3	NP_000996.2	SEQ ID NO. 360
361. GVLQLGNIVFK	345-355 MYH9	NP_002464.1	SEQ ID NO. 361
362. EVINALKQTW	489-498 LIM	NP_006448.1	SEQ ID NO. 362
363. STAAFFLLR	407-415 SLC37A4	NP_001458.1	SEQ ID NO. 363
364. DIYNFPIHAF	177-186 LOC84549	NP_115898.2	SEQ ID NO. 364

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
365. TVVERMLSNW	1398-1407 PLXNB2	BAA21571.1	SEQ ID NO. 365
366. TKPWFASQIPF	210-220 LOC345778	XP_293971.3	SEQ ID NO. 366
Sequences of RCC112			
367. GRVDFAYKF	111-119 PHC2	NP_004418.2	SEQ ID NO. 367
368. GRDLTDYLM	182-190 ACTG1	NP_001605.1	SEQ ID NO. 368
369. GRISITGVGF	101-110 MGC21644	NP_612501.3	SEQ ID NO. 369
370. GRIVTLISF	262-270 MCL1	NP_068779.1	SEQ ID NO. 370
371. GRLDLQYAKL	622-631 PLEC1	NP_000436.1	SEQ ID NO. 371
372. GRTNLIVNY	18-26 ELAVL1	NP_001410.2	SEQ ID NO. 372
373. RYFDTAVSR	5-13 HLA-A, -B or -C	AAC17722	SEQ ID NO. 373
374. GRMVQVHEL	170-178 SEC23A	NP_006355.2	SEQ ID NO. 374
375. FLDASGAKLDY	53-63 BZW1	NP_055485.2	SEQ ID NO. 375
376. ATDYHVRVY	348-356 FAD104	NP_073600.2	SEQ ID NO. 376
377. ARLPWAGQL	624-632 PBXIP1	NP_065385.2	SEQ ID NO. 377
378. YGMPRQIL	192-199 TAGLN2	NP_003555.1	SEQ ID NO. 378
379. GRLLVATTF	385-393 IARS	NP_002152.1	SEQ ID NO. 379
380. AGGDWFTSR	136-144 PPP2R1A	NP_055040.2	SEQ ID NO. 380
381. GRAPISNPGM	179-188 RPA2	NP_002937	SEQ ID NO. 381
382. GRMENLASYSR	308-317 PPP1R3C	NP_005389	SEQ ID NO. 382
383. VLPKSRVEL	89-97 HLA-DOA	BAA81787	SEQ ID NO. 383
384. DAKIRIFDL	28-36 RPL10	NP_006004.1	SEQ ID NO. 384
385. GRAMVARLGL	2-11 CD24	NP_037362.1	SEQ ID NO. 385
386. FIDASRLVY	612-620 CTNNA1	NP_001894.1	SEQ ID NO. 386
387. DPMKARVVL	21-29 SRP9	NP_003124.1	SEQ ID NO. 387
388. FRFDPQFAL	77-85 HLA-DQA1	XP_371812	SEQ ID NO. 388
389. DTDHYFLRY	165-173 PIGT	NP_057021.2	SEQ ID NO. 389

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
390. ELLIRKLPF	60-68 HIST3H3	NP_003484.1	SEQ ID NO. 390
391. EAFVRHIL	142-149 MYL6	NP_066299.2	SEQ ID NO. 391
392. RYFDTAMSR	5-13 HLA-A, -B or -C	AAB48498.1	SEQ ID NO. 392
393. GRVFIISKY	416-424 FLJ31657	NP_689971	SEQ ID NO. 393
394. TFRPAAMLVER	154-164 LAMB2	NP_002283.2	SEQ ID NO. 394
395. YLLEKSRAI	257-265 MYH9	NP_002464.1	SEQ ID NO. 395
396. LSDLGKLSY	353-361 MYST1	NP_115564.1	SEQ ID NO. 396
397. VTDSIRDEY	258-266 DNM1L	NP_005681.1	SEQ ID NO. 397
398. LTDRELEEY	567-575 ADD1	NP_001110.2	SEQ ID NO. 398
399. LTDRGVMSY	252-260 IRF3	NP_001562.1	SEQ ID NO. 399
400. KGLSVFLNR	527-535 GPNMB	NP_002501.1	SEQ ID NO. 400
401. VTDNRAFGY	128-136 DAB2	NP_001334.1	SEQ ID NO. 401
402. STDVSDLLHQY	257-267 PSMB8	NP_004150.1	SEQ ID NO. 402
403. RSLPFFSAR	135-143 TRAPPC1	NP_067033.1	SEQ ID NO. 403
404. YRFMGTEAY	378-386 SLC3A1	NP_000332.1	SEQ ID NO. 404
405. MPLLRQEEL	394-402 EHD2	NP_055416.2	SEQ ID NO. 405
406. VTEIDQDKY	2380-2388 FLNA	NP_001447.1	SEQ ID NO. 406
407. MRHLGAFLE	1-9 TCN2	NP_000346.2	SEQ ID NO. 407
408. TTEESLRNYY	20-29 HNRPA2B1	NP_002128.1	SEQ ID NO. 408
409. MRTSYLLLF	1-9 DEFB1	NP_005209.1	SEQ ID NO. 409
410. TVDQVKDLY	882-890 CP	NP_000087.1	SEQ ID NO. 410
411. MRYVASYLL	1-9 RPLP2	NP_000995.1	SEQ ID NO. 411
412. VGLIRNLAL	511-519 CTNNB1	NP_001895.1	SEQ ID NO. 412
413. GRLDAVLQR	317-325 PML	NP_002666.1	SEQ ID NO. 413
414. LLDQGQLNKY	421-430 CLTC	NP_004850.1	SEQ ID NO. 414

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
415. NRFAGFGIGL	98-107 LOC91137	NP_620128.1	SEQ ID NO. 415
416. KRLGTLVVTY	305-314 GBP4	NP_443173.2	SEQ ID NO. 416
417. KRGDVIYIL	319-327 SCAP2	NP_003921.2	SEQ ID NO. 417
418. SRFDIPLGL	1103-1111 PCF11	NP_056969.2	SEQ ID NO. 418
419. STDPSVLGKY	101-110 HES1	NP_005515.1	SEQ ID NO. 419
420. SRFLKSDLF	130-138 RGS10	NP_002916.1	SEQ ID NO. 420
421. VQKPSYYVR	211-219 ADFP	NP_001113.2	SEQ ID NO. 421
422. SRISLPLPNF	409-418 VIM	NP_003371.1	SEQ ID NO. 422
423. LRSGLPLLL	231-239 MADHIP	NP_004790.1	SEQ ID NO. 423
424. SFKDYIQER	330-338 ETS2	NP_005230.1	SEQ ID NO. 424
425. HTQGPVDGSLY	104-114 TENS1	NP_073585.6	SEQ ID NO. 425
426. STDKFKTDFY	271-280 COPS6	NP_006824.2	SEQ ID NO. 426
Sequences of RCC115			
427. GSHSMRYFF	25-33 HLA-A	NP_002107	SEQ ID NO. 427
428. GSHSMRYFFT	25-34 HLA-A	NP_002107	SEQ ID NO. 428
429. GSHSMRYFH	25-33 HLA-B	I37515	SEQ ID NO. 429
430. AAILGMHNL	135-143 TMOD3	NP_055362.1	SEQ ID NO. 430
431. KLDPTKTTL	275-283 NDRG1	NP_006087.2	SEQ ID NO. 431
432. FVHDLVLYL	783-791 CLTCL1	NP_001826.1	SEQ ID NO. 432
433. FVHDLVL	783-789 CLTCL1	NP_001826.1	SEQ ID NO. 433
434. VLIPKLPQL	134-142 ORMDL3	NP_644809.1	SEQ ID NO. 434
435. NEITIPVTF	177-185 HSPB1	NP_001531.1	SEQ ID NO. 435
436. YLADFLGTK	255-263 SLC17A3	NP_006623.1	SEQ ID NO. 436
437. YLIPLLERL	139-147 DDX6	NP_004388.1	SEQ ID NO. 437
438. NEVVTREY	18-25 RPL31	NP_000984.1	SEQ ID NO. 438
439. DEFKIGELF	145-153 PRKDC	NP_008835	SEQ ID NO. 439

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
440. IQRTPKIQVYS	21-31 B2M	NP_004039.1	SEQ ID NO. 440
441. LTGPVMPVR	150-158 RPL13	NP_000968.2	SEQ ID NO. 441
442. AVAIKAMAK	146-154 EIF5A	NP_001961.1	SEQ ID NO. 442
443. FVQMMTAK	142-149 CALM1	NP_008819.1	SEQ ID NO. 443
444. ATDPNILGR	4111-4119 PRKDC	NP_008835.5	SEQ ID NO. 444
445. LLLLSIVIL	212-220 EDG1	NP_001391.2	SEQ ID NO. 445
446. KLPNFGFVVF	376-385 G3BP	NP_005745.1	SEQ ID NO. 446
447. KLSEIDVAL	174-182 EFHD1	NP_079478.1	SEQ ID NO. 447
448. LAALPHSCL	5-13 RGS5	NP_003608.1	SEQ ID NO. 448
449. YSIITPNILRL	26-36 C3	NP_000055.1	SEQ ID NO. 449
450. ALPSRILLWK	2-11 MGC3047	NP_115724.1	SEQ ID NO. 450
451. VKGFYPSDIAVE	247-258 IGHG2	AAB59393.1	SEQ ID NO. 451
452. FLLDLRSV	92-100 GPR31	NP_005290.1	SEQ ID NO. 452
453. IYKGGTSR	545-553 GSN	NP_000168.1	SEQ ID NO. 453
454. IVADHYASY	3-11 MHC class II	AAC41957	SEQ ID NO. 454
455. EVGGEALGRLL	23-33 HBB	NP_000509.1	SEQ ID NO. 455
456. RTGPPMGSRF	175-184 WBSCR1	NP_071496.1	SEQ ID NO. 456
457. RQIQESVTF	1305-1313 ANK2	NP_001139.2	SEQ ID NO. 457
458. RVAPEEHPV	95-103 ACTB	NP_001092.1	SEQ ID NO. 458
459. TLADLLALR	1433-1441 DNAH11	NP_003768.1	SEQ ID NO. 459
460. RVAPEEHPVLLT	95-106 ACTB	NP_001092.1	SEQ ID NO. 460
461. TLADIIARL	1487-1495 KIAA1305	XP_370756.2	SEQ ID NO. 461
462. RWEDGSPLNF	142-151 KLRG1	NP_005801.2	SEQ ID NO. 462
463. YEVSQDKD	468-475 CNDP2	NP_060705.1	SEQ ID NO. 463
464. YRDIPELQGF	663-672 AACS	NP_076417	SEQ ID NO. 464

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
465. YVDGTQFVRF	51-60 HLA-A, -B or -C	BAA04965	SEQ ID NO. 465
466. SLLDEFYKL	184-192 M11S1	NP_005889.3	SEQ ID NO. 466
467. HGIDPTGTY	28-36 TUBB5	NP_006078.2	SEQ ID NO. 467
468. SLDKFLASVSTVL	125-137 HBA1	NP_000549.1	SEQ ID NO. 468
469. SIGERDLIFH	289-298 TIMELESS	NP_003911.1	SEQ ID NO. 469
470. SITSVFITK	1788-1796 TRRAP	NP_003487.1	SEQ ID NO. 470
471. FGEHLLESDF	28-38 CRYAB	NP_001876.1	SEQ ID NO. 471
472. FLDPIKAYL	76-84 GPR116	NP_056049.3	SEQ ID NO. 472
473. FLADPSAFVAA	268-278 RPLP0	NP_000993.1	SEQ ID NO. 473
474. ITAPPSRVL	20-28 SCD	NP_005054.2	SEQ ID NO. 474
475. VLDELKMKC	170-179 CYFIP2	NP_055191.1	SEQ ID NO. 475
476. LLGPRLVLA	23-31 TMP21	NP_006818.2	SEQ ID NO. 476
477. IIMPHNIYL	251-259 SLC11A1	NP_000569.2	SEQ ID NO. 477
478. LVRMVLNG	144-151 MYL6	NP_034990	SEQ ID NO. 478
479. RLYGPSSVSF	133-142 SERPINH1	NP_001226.2	SEQ ID NO. 479
480. FEAPIKLVF	236-244 HM13	NP_110416.1	SEQ ID NO. 480
481. IQPGAVKVY	1472-1480 C3	NP_000055.1	SEQ ID NO. 481
482. VLAEVPTQL	501-509 CPNE1	NP_003906.1	SEQ ID NO. 482
483. IMRAGMSSL	521-529 CCT6A	NP_001753.1	SEQ ID NO. 483
484. VEFSSGLKGMSL	96-107 ATP5A1	NP_004037.1	SEQ ID NO. 484
485. ILNPDNSFEIL	241-251 CANX	NP_001737.1	SEQ ID NO. 485
486. VALEFALHL	344-352 CABLES1	NP_612384.1	SEQ ID NO. 486
487. TVAVPLVGK	22-30 MGC3067	NP_077271.1	SEQ ID NO. 487
488. TLSDLRVYL	121-129 C200rf139	NP_542763.1	SEQ ID NO. 488
489. TLIDIMTRF	35-43 HK1	NP_000179.1	SEQ ID NO. 489

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
Sequences of RCC116			
490. HDFPRALIF	64-72 CG018	AAH22188	SEQ ID NO. 490
491. GSHSMRYF	25-32 HLA-A, -B or -C	BAA04965	SEQ ID NO. 491
492. SLMDHTIPEV	289-298 SDCBP	NP_005616.1	SEQ ID NO. 492
493. SGVHTFPAVLQ	155-165 Ig heavy chain	AA022172	SEQ ID NO. 493
494. FLVTVIHTL	1065-1073 PLXNC1	NP_005752.1	SEQ ID NO. 494
495. TDGKVFQF	24-31 RPL24	NP_000977.1	SEQ ID NO. 495
496. YDLLRNTNF	246-254 DYRK1A	NP_001387.2	SEQ ID NO. 496
497. ILYPKTLFL	138-146 PPP3CA	NP_000935.1	SEQ ID NO. 497
498. MRYVASYL	1-8 RPLP2	NP_000995.1	SEQ ID NO. 498
499. FIWENIHTL	3725-3733 BPAG1	NP_056363.2	SEQ ID NO. 499
500. RELPAWVSF	125-133 MBC2	NP_056107.1	SEQ ID NO. 500
501. QDLNRIFPL	81-89 PRG1	NP_002718.2	SEQ ID NO. 501
502. RDSIVAEL	97-104 COPE	NP_009194.2	SEQ ID NO. 502
503. ADVLKVEVF	130-138 ITGB4BP	NP_002203.1	SEQ ID NO. 503
504. YDSIIYRM	335-342 ATP6AP2	NP_005756.2	SEQ ID NO. 504
505. AMNPVEHPF	203-211 RPL8	NP_000964.1	SEQ ID NO. 505
506. SELIRNVTL	126-134 U5-116KD	NP_004238.2	SEQ ID NO. 506
507. QDVARVLGF	117-125 PNMA1	NP_006020.3	SEQ ID NO. 507
508. SDHIHIAL	215-223 OTUB1	NP_060140.1	SEQ ID NO. 508
509. ADSLRLQQL	781-789 SPTAN1	NP_003118.1	SEQ ID NO. 509
510. LLDIRSEY	466-473 ANXA11	NP_001148.1	SEQ ID NO. 510
511. VLFGLLREV	663-671 DHX38	NP_054722.2	SEQ ID NO. 511
512. VAVGRALYY	510-518 DDB1	NP_001914.2	SEQ ID NO. 512
513. MRFLAATFL	1-9 NPC2	NP_006423.1	SEQ ID NO. 513
514. YTDPEVFKY	398-406 PTGIS	NP_000952.1	SEQ ID NO. 514

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
515. HDFLKYDF	232-240 SURF4	NP_149351.1	SEQ ID NO. 515
516. AIDQLHLEY	525-533 ACTN4	NP_004915.2	SEQ ID NO. 516
517. SDLERVTS	316-324 FLJ21616	NP_078843.2	SEQ ID NO. 517
518. TLLPLRVFL	128-136 FLJ90013	NP_699196.1	SEQ ID NO. 518
519. YSIITPNILR	26-35 C3	NP_000055.1	SEQ ID NO. 519
520. FELQRNFQL	19-27 ING4	NP_057246.2	SEQ ID NO. 520
521. LDLQRNYIF	186-194 UNQ3030	NP_940967.1	SEQ ID NO. 521
522. RRLDPIPQL	56-64 MGC8721	NP_057211.4	SEQ ID NO. 522
523. SLPIKESEIIDF	85-96 RPS2	NP_002943.2	SEQ ID NO. 523
524. TELLRYM	292-300 SNX5	NP_055241.1	SEQ ID NO. 524
525. FIYHGEVPQA	254-263 MHC2TA	NP_000237.1	SEQ ID NO. 525
526. AEMLRSISF	217-225 CSTF1	NP_001315.1	SEQ ID NO. 526
527. RLQEDPPVGV	15-24 UBE2B	NP_003328.1	SEQ ID NO. 527
528. AELERAAAL	465-473 FLJ35453	NP_689813.1	SEQ ID NO. 528
529. YTDKIDRY	107-114 TM4SF7	NP_003262.1	SEQ ID NO. 529
530. FLLPDVIRI	329-337 TBC1D13	NP_060671.2	SEQ ID NO. 530
531. VELPHINLL	169-177 FLJ10349	NP_060536.2	SEQ ID NO. 531
532. VMLDVPIRL	725-733 RASAL2	NP_004832.1	SEQ ID NO. 532
533. SLLLENLEKI	209-216 HNRPC	NP_112604.1	SEQ ID NO. 533
534. YADPVNAHY	226-234 ROD1	NP_005147.3	SEQ ID NO. 534
535. AELLRGLSL	165-173 FBXL5	NP_036293.1	SEQ ID NO. 535
536. TTEVHPELY	51-59 SDBCAG84	NP_057050.1	SEQ ID NO. 536
537. RETNLDSL	424-432 VIM	NP_003371.1	SEQ ID NO. 537
538. ELEDSTLRY	543-551 PLEC1	NP_000436.1	SEQ ID NO. 538
Sequences of RCC130			
539. FLDIYIFL	84-91 LOC390875	XP_372703.1	SEQ ID NO. 539

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
540. TYTDRVFFL	1282-1290 PLXNB2	BAA21S71.1	SEQ ID NO. 540
541. SPHLANYFYF	147-156 Symbol does not exist; Gene type: unnamed protein product	BAC87422	SEQ ID NO. 541
542. SPRLPVGGF	1921-1929 TRIP12	XP_376178.1	SEQ ID NO. 542
543. KLLDKVQAYS	9-18 GJA1	NP_000156.1	SEQ ID NO. 543
544. AYQHLFYLL	955-963 IQGAP3	NP_839943.2	SEQ ID NO. 544
545. KYILLMDIIA	148-157 TBX3	NP_005987.2	SEQ ID NO. 545
546. RYSSMAASF	82-90 MAP17	NP_005755.1	SEQ ID NO. 546
547. SPRAAEPVQL	397-406 CA9	NP_001207.1	SEQ ID NO. 547
548. IYTSSVNRL	535-543 COPB2	NP_004757.1	SEQ ID NO. 548
549. LYPQFMFHL	576-584 SEC23A	NP_006355.2	SEQ ID NO. 549
550. RYIPTAAAF	415-423 SEC61A1	NP_037468.1	SEQ ID NO. 550
551. EYIVKKIPV	237-245 EIF2S3	NP_001406.1	SEQ ID NO. 551
552. SRVEAVYVL	13-21 PADI2	NP_031391.1	SEQ ID NO. 552
553. MPRGVVVTI	851-859 HECTD1	NP_056197.1	SEQ ID NO. 553
554. LPKPPGRGV	341-349 FBXL6	NP_036294.1	SEQ ID NO. 554
555. RLWGEPVNL	1665-1673 USP9X	NP_004643.2	SEQ ID NO. 555
556. RLLDVLAPL	14-22 COL18A1	NP_569712.1	SEQ ID NO. 556
557. LYILSSHDI	474-482 FBXO24	NP_277041.1	SEQ ID NO. 557
558. TPMGPGRTV	235-243 LGALS8	NP_006490.3	SEQ ID NO. 558
559. GPPGTGKTDVAVQI	823-836 AQR	NP_055506.1	SEQ ID NO. 559
560. NEIEDTFRQF	46-55 ATP6V1F	NP_004222.2	SEQ ID NO. 560
561. EEIDLRVSGW	315-324 UNC93B1	NP_112192.2	SEQ ID NO. 561
562. KYQKGFSW	245-253 TRAM1	NP_055109.1	SEQ ID NO. 562
563. VYPDGIIRHI	519-527 SF3B3	NP_036558.2	SEQ ID NO. 563

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
564. KFIDTTSKF	366-374 RPL3L	NP_005052.1	SEQ ID NO. 564
565. FLDILNTLI	1729-1737 DNAH8	NP_001362.1	SEQ ID NO. 565
566. KYITQGQLLQF	200-210 ELOVL5	NP_068586.1	SEQ ID NO. 566
567. KYLSVQGQLF	344-353 MTCH1	NP_055156.1	SEQ ID NO. 567
568. RYFDEPVEL	355-363 ARFGAP3	NP_055385.2	SEQ ID NO. 568
569. KYDEIFYNL	452-460 EHD2	NP_055416.2	SEQ ID NO. 569
570. SYIEHIFEI	61-69 PEA15	NP_003759.1	SEQ ID NO. 570
571. KFIDPIYQVW	572-581 RRN3	NP_060897.2	SEQ ID NO. 571
572. LGYTEGALLAL	1370-1380 PCDH15	NP_149045.2	SEQ ID NO. 572
573. KYPSPFFVF	2-10 DHX9	NP_085077.1	SEQ ID NO. 573
574. EYPDRIMNTF	158-167 TUBB4	NP_006077.1	SEQ ID NO. 574
575. VYISEHEHF	107-115 CLPTM1	NP_001285.1	SEQ ID NO. 575
576. KYFLKPEVL	167-175 KIAA1363	NP_065843.2	SEQ ID NO. 576
Sequence of JY			
577. GPALGRSFL	78-86 TNFSF7	NP_001243.1	SEQ ID NO. 577
Sequences of the control peptides			
578. ELAGIGILTV	26-35 MLANA(modified A27- >L)	NP_005502.1	SEQ ID NO. 578
579. ILKEPVHGV	896-904 pol	NP_057849.4	SEQ ID NO. 579
580. GILGFVFTL	58-66 Symbol does not exist; Gene type: matrix protein M1	S14616	SEQ ID NO. 580
581. NLVPMVATV	495-503 Symbol does not exist; Gene type: pp65	P06725	SEQ ID NO. 581
582. LLDFVRFMGV	284-293 Symbol does not exist; Gene type: EBNA-6 nuclear protein	P03204	SEQ ID NO. 582
583. GLCTLVAML	259-267 Symbol does not exist; Gene type: Immediate-early transactivator	NP_039857.1	SEQ ID NO. 583

TABLE 1-continued

Sequence	Position/ Gene symbol	Acc. No.	SEQ ID NO.
584. CLGGLTMV	294-302 Symbol does not exist; Gene type: latent membrane protein 2	AAB59844.1	SEQ ID NO. 584
585. APRTVALTA	9-17 HLA-DPB1	NP_002112	SEQ ID NO. 585

SEQUENCE LISTING

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Tyr Pro His Leu His Asn Ala Glu Leu
1 5

<210> SEQ ID NO 8
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 8

Arg Leu Phe Val Gly Ser Ile Pro Lys
1 5

<210> SEQ ID NO 9
<211> LENGTH: 10
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 9

Arg Val Phe Pro Asp Lys Gly Tyr Ser Phe
1 5 10

<210> SEQ ID NO 10
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 10

Ser Leu Tyr Lys Lys Leu Glu Ile Lys
1 5

<210> SEQ ID NO 11
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 11

His Pro Val Ser Asp His Glu Ala Thr Leu
1 5 10

<210> SEQ ID NO 12
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 12

Leu Pro Thr Arg Val Asp Phe Ser Leu
1 5

<210> SEQ ID NO 13
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 13

Lys Ser Phe Gly Ser Ala Gln Glu Phe Ala Trp
 1 5 10

<210> SEQ ID NO 14

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 14

Ser Pro Ser Thr Ser Arg Thr Pro Leu Leu
 1 5 10

<210> SEQ ID NO 15

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 15

Ser Thr Phe Asp Ser Pro Ala His Trp
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<210> SEQ ID NO 16

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 16

Ala Pro Glu Glu His Pro Val Leu Leu
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<210> SEQ ID NO 17

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 17

Arg Gln Ile Thr Gln Val Tyr Gly Phe
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<210> SEQ ID NO 18

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 18

Lys Val Ser Asp Tyr Ile Leu Gln His
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<210> SEQ ID NO 19

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 19

Lys Leu Leu Pro Ser Val Val Leu Lys
 1 5

<210> SEQ ID NO 20

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 20

Gly Val Leu Lys Lys Val Ile Arg His

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<210> SEQ ID NO 21
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<400> SEQUENCE: 21

Lys Leu Phe Asp His Ala Val Ser Lys Phe
 1 5 10

<210> SEQ ID NO 22
 <211> LENGTH: 10
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 22

Ile Thr Val Leu Thr Lys Pro Leu Pro Val
 1 5 10

<210> SEQ ID NO 23
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 23

His Pro Val His Pro Asp Ile Lys Leu
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<210> SEQ ID NO 24
 <211> LENGTH: 10
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<400> SEQUENCE: 24

Ile Pro Arg Ala Ala Leu Leu Pro Leu Leu
 1 5 10

<210> SEQ ID NO 25
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<400> SEQUENCE: 25

Ala Thr Asn Arg Ile Thr Val Thr Trp
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<210> SEQ ID NO 26
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<400> SEQUENCE: 26

Lys Ile Ala Asp Arg Phe Leu Leu Tyr
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<210> SEQ ID NO 27
 <211> LENGTH: 10
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 27

Asp His Asp Pro Val Asp Lys Ile Val Leu
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<210> SEQ ID NO 28
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 28

Asp His His Gln Glu Val Ile Gly Phe
1 5

<210> SEQ ID NO 29
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 29

Ile His Asp Leu Asp Asn Ile Ser Phe
1 5

<210> SEQ ID NO 30
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 30

Asp His Ile Asn Asp Ile Ile Lys Ile
1 5

<210> SEQ ID NO 31
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 31

Asp His Met Arg Phe Ile Ser Glu Leu
1 5

<210> SEQ ID NO 32
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 32

Thr His Ser Leu Pro Val Val Val Ile
1 5

<210> SEQ ID NO 33
<211> LENGTH: 11
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 33

Met Pro Val Gly Pro Asp Ala Ile Leu Arg Tyr
1 5 10

<210> SEQ ID NO 34
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 34

Arg Leu Asp Asp Ala Ile His Val Leu
1 5

<210> SEQ ID NO 35
<211> LENGTH: 9
<212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 35

Gln His Glu Gly Thr Val Asn Ile Phe
1 5

<210> SEQ ID NO 36

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 36

Glu Thr Val Asn Ile Trp Thr His Phe
1 5

<210> SEQ ID NO 37

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 37

Val His Ile Leu Asp Thr Glu Thr Phe
1 5

<210> SEQ ID NO 38

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 38

Gln Thr Pro Asp Phe Thr Pro Thr Lys Tyr
1 5 10

<210> SEQ ID NO 39

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 39

Arg His Val Glu Val Phe Glu Leu Leu
1 5

<210> SEQ ID NO 40

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 40

Thr Thr Ile Asp Ile Gly Val Lys Tyr
1 5

<210> SEQ ID NO 41

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 41

Asp Leu Ile Glu His Phe Ser Gln Phe
1 5

<210> SEQ ID NO 42

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 42

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Glu Thr Val Trp Arg Leu Glu Glu Phe
1 5

<210> SEQ ID NO 43
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 43

Asp Val Leu Glu Ser Val Asn Leu Leu
1 5

<210> SEQ ID NO 44
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 44

Ile His Asp Asp Phe Val Thr Thr Phe
1 5

<210> SEQ ID NO 45
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 45

Ile His Ile Pro Ile Asn Asn Ile Ile
1 5

<210> SEQ ID NO 46
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 46

Ile His Leu Ile Asp Pro Asn Thr Leu
1 5

<210> SEQ ID NO 47
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 47

Ile His Val Ile Gly Gly Asn Asp Val
1 5

<210> SEQ ID NO 48
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 48

Lys Ala Phe Gln Lys Ile Val Val Leu
1 5

<210> SEQ ID NO 49
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 49

Tyr Gln Asp Leu Leu Asn Val Lys Leu
1 5

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<210> SEQ ID NO 50
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 50

Gly His Tyr Glu Val Ala Glu Leu Leu
1 5

<210> SEQ ID NO 51
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 51

Leu Val Val Tyr Pro Trp Thr Gln Arg Phe
1 5 10

<210> SEQ ID NO 52
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 52

Met His Leu Arg Gln Tyr Glu Leu Leu
1 5

<210> SEQ ID NO 53
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 53

Glu Ala Ile Glu Gln Ile Leu Lys Tyr
1 5

<210> SEQ ID NO 54
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 54

Asp Val Ala Glu Gly Asp Leu Ile Glu His Phe
1 5 10

<210> SEQ ID NO 55
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 55

Asp Val Leu Gln Lys Ile Lys Tyr
1 5

<210> SEQ ID NO 56
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 56

Asp Ser Phe Pro Met Glu Ile Arg Gln Tyr
1 5 10

<210> SEQ ID NO 57

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<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 57

Asp Val Ile Ser Asn Ile Glu Thr Phe
1 5

<210> SEQ ID NO 58
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 58

Asp Val Ile Arg Leu Ile Met Gln Tyr
1 5

<210> SEQ ID NO 59
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 59

Asp Val Ile Glu Arg Val Ile Gln Tyr
1 5

<210> SEQ ID NO 60
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 60

Asp Val Ile Ala Gln Gly Ile Gly Lys Leu
1 5 10

<210> SEQ ID NO 61
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 61

Asp Val Phe Asn Glu Lys Gly Trp Asn Tyr
1 5 10

<210> SEQ ID NO 62
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 62

Thr His Leu Asp Ser Val Thr Lys Ile
1 5

<210> SEQ ID NO 63
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 63

Asp Val Ala Gly Ile Ile Ala Asp Tyr
1 5

<210> SEQ ID NO 64
<211> LENGTH: 9
<212> TYPE: PRT
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<400> SEQUENCE: 64

Thr Ala Ala Pro Phe Pro Phe His Leu
1 5

<210> SEQ ID NO 65

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 65

Asp Thr Leu Asp Lys Val Phe Thr Tyr
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<210> SEQ ID NO 66

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 66

Asp Thr Ile Ser Pro Thr Leu Gly Phe
1 5

<210> SEQ ID NO 67

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 67

Asp Thr Gly Ile Leu Asp Ser Ile Gly Arg Phe
1 5 10

<210> SEQ ID NO 68

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 68

Val Val Tyr Pro Trp Thr Gln Arg Phe
1 5

<210> SEQ ID NO 69

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 69

Glu Val Val Ala Gly Ile Lys Glu Tyr Phe
1 5 10

<210> SEQ ID NO 70

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 70

Ser Ser Val Pro Gly Val Arg Leu Leu
1 5

<210> SEQ ID NO 71

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 71

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Ser Val Val Asp Ala Ile Gly Ile Ser Arg Phe
1 5 10

<210> SEQ ID NO 72
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 72

Glu Val Ile Pro Pro Met Lys Glu Phe
1 5

<210> SEQ ID NO 73
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 73

Glu Val Ile Pro Pro Tyr Tyr Ser Tyr
1 5

<210> SEQ ID NO 74
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 74

Glu Val Asn Gly Leu Ile Ser Met Tyr
1 5

<210> SEQ ID NO 75
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 75

Glu Val Ile Asp Leu Met Ile Lys Glu Tyr
1 5 10

<210> SEQ ID NO 76
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 76

Glu Val Val Ala Gly Ile Lys Glu Tyr
1 5

<210> SEQ ID NO 77
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 77

Glu Val Phe Pro Leu Ala Met Asn Tyr
1 5

<210> SEQ ID NO 78
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 78

Glu Val Val Glu Arg Val Leu Thr Phe
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<210> SEQ ID NO 79
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 79

Ser His Ser Pro Phe Gly Leu Asp Ser Phe
1 5 10

<210> SEQ ID NO 80
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 80

Phe Gly Val Asp Arg Ala Ile Leu Tyr
1 5

<210> SEQ ID NO 81
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 81

Ser His Ser Asp Tyr Leu Leu Thr Ile
1 5

<210> SEQ ID NO 82
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 82

Ser His Leu Asp Tyr Asp Ile Thr Leu
1 5

<210> SEQ ID NO 83
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 83

Ser His Phe Val Ser Asp Val Val Ile
1 5

<210> SEQ ID NO 84
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 84

Glu Val Thr Glu Leu Leu Ala Arg Tyr
1 5

<210> SEQ ID NO 85
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 85

Glu Thr Ala Asp Thr Leu Met Gly Leu Arg Tyr
1 5 10

<210> SEQ ID NO 86
<211> LENGTH: 9

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<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 86

Glu His Ala His Leu Ile Val Val Leu
1 5

<210> SEQ ID NO 87
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 87

Glu His Ser Leu Val Ile Asp Thr Leu
1 5

<210> SEQ ID NO 88
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 88

Glu Ile Ala Glu Ala Tyr Leu Gly Tyr
1 5

<210> SEQ ID NO 89
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 89

Glu Ile Tyr Gly Gly Ser Asp Ser Arg Phe
1 5 10

<210> SEQ ID NO 90
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 90

Glu Leu Ile Ala Lys Ile Pro Asn Phe
1 5

<210> SEQ ID NO 91
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 91

Glu Val Ile Lys Asn Phe Ile Gln Tyr
1 5

<210> SEQ ID NO 92
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 92

Glu Thr Ala Asp Thr Leu Leu Ala Leu Arg Tyr
1 5 10

<210> SEQ ID NO 93
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 93

Glu	Val	Val	Ser	Glu	Pro	Phe	Arg	Ser	Phe
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<210> SEQ ID NO 94

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 94

Glu	Thr	Phe	Asp	Ala	Gly	Leu	Gln	Ala	Phe
1				5					10

<210> SEQ ID NO 95

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 95

Ser	His	Ser	Gln	Leu	Met	Gln	Leu	Ile
1				5				

<210> SEQ ID NO 96

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 96

Glu	Thr	Val	Arg	Glu	Leu	Thr	Glu	Phe
1				5				

<210> SEQ ID NO 97

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 97

Glu	Val	Ala	Ala	Thr	Glu	Ile	Lys	Met
1				5				

<210> SEQ ID NO 98

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 98

Glu	Val	Ala	Ala	Val	Leu	Leu	His	Phe
1				5				

<210> SEQ ID NO 99

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 99

Glu	Val	Phe	Asp	Lys	Thr	Tyr	Gln	Phe
1				5				

<210> SEQ ID NO 100

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 100

Glu	Leu	Val	Lys	Arg	Ile	Leu	Asn	Phe
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<210> SEQ ID NO 101
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 101

Ala His Asp Asp Gly Arg Trp Ser Leu
1 5

<210> SEQ ID NO 102
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 102

Ser Val Val Ser Val Ile Ser Arg Phe
1 5

<210> SEQ ID NO 103
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 103

Ser Val Val Glu Leu Ile Asn His Tyr
1 5

<210> SEQ ID NO 104
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 104

Ser Val Val Asp Leu Ile Asn His Tyr
1 5

<210> SEQ ID NO 105
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 105

Ala His Val Asp Leu Ile Glu Lys Leu
1 5

<210> SEQ ID NO 106
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 106

Phe His Asn Glu Leu Leu Thr Gln Leu
1 5

<210> SEQ ID NO 107
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 107

Ser Val Ile Glu Ala Val Ala His Phe
1 5

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<210> SEQ ID NO 108
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 108

Gly His Phe Glu Lys Pro Leu Phe Leu
1 5

<210> SEQ ID NO 109
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 109

Gly His Asp Ala Ser Gln Ile Thr Leu
1 5

<210> SEQ ID NO 110
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 110

Ser Ala Val Asp Phe Ile Arg Thr Leu
1 5

<210> SEQ ID NO 111
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 111

Ile Ser Thr Pro Val Ile Arg Thr Phe
1 5

<210> SEQ ID NO 112
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 112

Gly Val Ile Glu Lys Leu Leu Thr Ser Tyr
1 5 10

<210> SEQ ID NO 113
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 113

Ser His Asp Leu Thr Leu Val Asn Leu
1 5

<210> SEQ ID NO 114
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 114

Phe Pro Ser Leu Arg Glu Ala Ala Leu
1 5

<210> SEQ ID NO 115
<211> LENGTH: 9
<212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 115

Ser Ile Phe Lys Gln Pro Val Thr Lys
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<210> SEQ ID NO 116

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 116

Lys Pro Asn Ala Asn Arg Ile Ala Leu
1 5

<210> SEQ ID NO 117

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 117

Lys Leu Tyr Glu Met Ile Leu Lys Arg
1 5

<210> SEQ ID NO 118

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 118

Ser Leu Phe Ser Arg Leu Phe Gly Lys
1 5

<210> SEQ ID NO 119

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 119

Lys Leu Phe Asp Lys Leu Leu Glu Tyr
1 5

<210> SEQ ID NO 120

<211> LENGTH: 12

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 120

Ser Leu Phe Pro Asn Ser Pro Lys Trp Thr Ser Lys
1 5 10

<210> SEQ ID NO 121

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 121

Leu Glu Ser Leu Asp Gln Leu Glu Leu
1 5

<210> SEQ ID NO 122

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 122

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Val Val Asn Lys Val Pro Leu Thr Gly Lys
1 5 10

<210> SEQ ID NO 123
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 123

Ser Val Tyr Asp Ser Val Leu Gln Lys
1 5

<210> SEQ ID NO 124
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 124

Ser Val Tyr Val Leu Val Arg Gln Lys
1 5

<210> SEQ ID NO 125
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 125

Ile Leu Glu Asn Ile Gln Arg Asn Lys
1 5

<210> SEQ ID NO 126
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 126

Gly Ser Tyr Asn Lys Val Phe Leu Ala Lys
1 5 10

<210> SEQ ID NO 127
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 127

Thr Glu Ser Gly Leu Asn Val Thr Leu
1 5

<210> SEQ ID NO 128
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 128

Thr Glu His Gly Val Glu Val Val Leu
1 5

<210> SEQ ID NO 129
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 129

Thr Glu Ala Arg Phe Gly Ala Gln Leu
1 5

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<210> SEQ ID NO 130
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 130

Thr Leu Ala Asp Ile Leu Leu Tyr Tyr
 1 5

<210> SEQ ID NO 131
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 131

Leu Val Phe Pro Ser Glu Ile Val Gly Lys
 1 5 10

<210> SEQ ID NO 132
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 132

Val Leu Phe Gly Lys Ala Leu Asn Pro Lys
 1 5 10

<210> SEQ ID NO 133
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 133

Arg Pro Glu Leu Val Arg Pro Ala Leu
 1 5

<210> SEQ ID NO 134
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 134

Val Pro Asn Gln Lys Arg Leu Thr Leu Leu
 1 5 10

<210> SEQ ID NO 135
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 135

Gln Leu Tyr Trp Ser His Pro Arg Lys
 1 5

<210> SEQ ID NO 136
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 136

Ser Val Tyr Val Tyr Lys Val Leu Lys
 1 5

<210> SEQ ID NO 137

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<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 137

Arg Glu Lys Leu Gln Glu Glu Met Leu
1 5

<210> SEQ ID NO 138
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 138

Arg Val Phe Ser Gly Leu Val Ser Thr Gly Leu Lys
1 5 10

<210> SEQ ID NO 139
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 139

Lys Pro Arg Asp Val Ser Ser Val Glu Leu
1 5 10

<210> SEQ ID NO 140
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 140

Asn Glu Phe Pro Glu Pro Ile Lys Leu
1 5

<210> SEQ ID NO 141
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 141

Lys Thr Tyr Gly Glu Ile Phe Glu Lys
1 5

<210> SEQ ID NO 142
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 142

Arg Ile Leu Phe Phe Asn Thr Pro Lys
1 5

<210> SEQ ID NO 143
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 143

Arg Val Phe Pro Trp Phe Ser Val Lys
1 5

<210> SEQ ID NO 144
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 144

Ser Glu Val Gln Asp Arg Val Met Leu
1 5

<210> SEQ ID NO 145

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 145

Ser Leu Trp Asp Arg Leu Ile Phe His
1 5

<210> SEQ ID NO 146

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 146

Lys Val Tyr Asn Ile Gln Ile Arg Tyr
1 5

<210> SEQ ID NO 147

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 147

Arg Leu Leu Glu Met Ile Leu Asn Lys
1 5

<210> SEQ ID NO 148

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 148

Ser Glu Asp Lys Lys Asn Ile Ile Leu
1 5

<210> SEQ ID NO 149

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 149

Tyr Glu Glu Leu Val Arg Met Val Leu
1 5

<210> SEQ ID NO 150

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 150

Gly Glu Ile Thr Gly Glu Val His Met
1 5

<210> SEQ ID NO 151

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 151

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Ile Val Ala Gly Ser Leu Ile Thr Lys
1 5

<210> SEQ ID NO 152
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 152

Ala Pro Arg Ile Ile Thr Gly Pro Ala Pro Val Leu
1 5 10

<210> SEQ ID NO 153
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 153

Gly Leu Ala Ser Phe Lys Ser Phe Leu Lys
1 5 10

<210> SEQ ID NO 154
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 154

Phe Pro Asn Ser Pro Lys Trp Thr Ser Lys
1 5 10

<210> SEQ ID NO 155
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 155

Phe Val Ile Glu Thr Ala Arg Gln Leu
1 5

<210> SEQ ID NO 156
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 156

Ile Glu Val Asp Gly Lys Gln Val Glu Leu
1 5 10

<210> SEQ ID NO 157
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 157

Gly Glu Leu Thr Gly Glu Val Arg Met
1 5

<210> SEQ ID NO 158
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 158

Gly Glu Ser Asp Asp Ser Ile Leu Arg Leu
1 5 10

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<210> SEQ ID NO 159
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 159

Gly Glu Gly Asp Phe Leu Ala Glu Gly Gly Gly Val
1 5 10

<210> SEQ ID NO 160
<211> LENGTH: 7
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 160

Asp Asn Phe Pro Gln Ser Leu
1 5

<210> SEQ ID NO 161
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 161

Gly Leu Thr Asp Val Ile Leu Tyr His
1 5

<210> SEQ ID NO 162
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 162

Ala Ala Leu Val Ala Ser Gly Val Ala Leu Tyr
1 5 10

<210> SEQ ID NO 163
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 163

Ala Glu Ile Arg His Val Leu Val Thr Leu
1 5 10

<210> SEQ ID NO 164
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 164

Ala Glu Pro Glu Glu Val Glu Val Leu
1 5

<210> SEQ ID NO 165
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 165

Ala Ile Ile Asp His Ile Phe Ala Ser Lys
1 5 10

<210> SEQ ID NO 166
<211> LENGTH: 11

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<212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 166
 Ala Leu Leu Asp Gly Ser Asn Val Val Phe Lys
 1 5 10

<210> SEQ ID NO 167
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 167

Ala Met Leu Asp Thr Val Val Phe Lys
 1 5

<210> SEQ ID NO 168
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 168

Ala Pro Ala Arg Leu Phe Ala Leu Leu
 1 5

<210> SEQ ID NO 169
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 169

Ala Val Asn Ala His Ser Asn Ile Leu Lys
 1 5 10

<210> SEQ ID NO 170
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 170

Ala Pro Arg Pro Gly Val Leu Leu Leu
 1 5

<210> SEQ ID NO 171
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 171

Glu Ala Phe Pro Leu Arg Val Ile Asp
 1 5

<210> SEQ ID NO 172
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens
 <400> SEQUENCE: 172

Gly Val Ala Asp Lys Ile Leu Lys Lys
 1 5

<210> SEQ ID NO 173
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 173

Ala Val Phe Pro Lys Pro Phe Val Glu Lys
 1 5 10

<210> SEQ ID NO 174

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 174

Val Val Tyr Val Gly Gly Ile Leu Thr Lys
 1 5 10

<210> SEQ ID NO 175

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 175

His Leu Glu Asp Ile Val Arg Gln Lys
 1 5

<210> SEQ ID NO 176

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 176

Val Thr Leu Thr Leu Val Ile Leu Ser Tyr
 1 5 10

<210> SEQ ID NO 177

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 177

Ser Leu Leu Ser Leu Val Thr Gly Leu Lys
 1 5 10

<210> SEQ ID NO 178

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 178

Gln Thr Tyr Val Gly Ile Thr Glu Lys
 1 5

<210> SEQ ID NO 179

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 179

His Glu Asp Lys Ile Arg Val Val Leu
 1 5

<210> SEQ ID NO 180

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 180

Gln Ile Ser Ile Pro Phe Leu Leu Lys

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1 5

<210> SEQ ID NO 181
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 181

Gly Leu Met Gly Phe Ile Val Tyr Lys
1 5

<210> SEQ ID NO 182
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 182

Phe Ala Asp Gln Glu Val Arg Ser Leu
1 5

<210> SEQ ID NO 183
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 183

Ile Val Ala Leu Ile Leu Ser Thr Lys
1 5

<210> SEQ ID NO 184
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 184

Gly Thr Tyr Ala Pro Ala Glu Val Pro Lys
1 5 10

<210> SEQ ID NO 185
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 185

Gly Thr Met Thr Gly Met Leu Tyr Lys
1 5

<210> SEQ ID NO 186
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 186

Ser Leu Ala Glu Ile Leu Leu Lys Lys
1 5

<210> SEQ ID NO 187
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 187

Lys Leu Thr Tyr Ile Tyr Ile Gln Lys
1 5

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<210> SEQ ID NO 188
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 188

Lys Leu Leu Asn Tyr Ala Pro Leu Glu Lys
1 5 10

<210> SEQ ID NO 189
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 189

Gly Thr Leu Pro His Pro Leu Gln Arg
1 5

<210> SEQ ID NO 190
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 190

Gly Leu Tyr Glu Phe Phe Arg Ala Lys
1 5

<210> SEQ ID NO 191
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 191

Lys Glu Pro Glu Ile Asn Thr Thr Leu
1 5

<210> SEQ ID NO 192
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 192

His Ala Ser Asp Arg Ile Ile Ala Leu
1 5

<210> SEQ ID NO 193
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 193

Arg Pro Thr Leu Trp Ala Ala Ala Leu
1 5

<210> SEQ ID NO 194
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 194

Ala Pro Ser Pro Arg Pro Leu Ser Leu
1 5

<210> SEQ ID NO 195
<211> LENGTH: 10
<212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 195

Ala Ser Asp Phe Ile Thr Lys Met Asp Tyr
1 5 10

<210> SEQ ID NO 196

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 196

Glu Glu Arg Val Ile Asn Glu Glu Tyr
1 5

<210> SEQ ID NO 197

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 197

Ala Thr Gly Ser Trp Asp Ser Phe Leu Lys
1 5 10

<210> SEQ ID NO 198

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 198

Arg Met Phe Asp Met Gly Phe Glu Tyr
1 5

<210> SEQ ID NO 199

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 199

Ala Pro Leu Leu Arg Trp Val Leu
1 5

<210> SEQ ID NO 200

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 200

Ala Leu Arg Pro Ser Thr Ser Arg Ser Leu Tyr
1 5 10

<210> SEQ ID NO 201

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 201

Arg Gln Ile Pro Tyr Thr Met Met Lys
1 5

<210> SEQ ID NO 202

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 202

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Ala Glu Thr His Ile Val Leu Leu Phe
1 5

<210> SEQ ID NO 203
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 203

Arg Val His Ala Tyr Ile Ile Ser Tyr
1 5

<210> SEQ ID NO 204
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 204

Ala Val Ile Val Leu Val Glu Asn Phe Tyr Lys
1 5 10

<210> SEQ ID NO 205
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 205

Ser Glu Glu Leu Leu Arg Glu His Tyr
1 5

<210> SEQ ID NO 206
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 206

Arg Ala Asp Gly Asn Phe Leu Leu Tyr
1 5

<210> SEQ ID NO 207
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 207

Ser Glu Phe Thr Gly Val Trp Lys Tyr
1 5

<210> SEQ ID NO 208
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 208

Ser Ile Asp Arg Thr Val Met Tyr Tyr
1 5

<210> SEQ ID NO 209
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 209

Glu Thr Asp Leu Leu Asp Ile Arg Ser Glu Tyr
1 5 10

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<210> SEQ ID NO 210
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 210

Glu Ser Tyr Glu Ala Leu Pro Gln His
1 5

<210> SEQ ID NO 211
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 211

Ser Glu Glu Glu Ile Arg Glu Ala Phe
1 5

<210> SEQ ID NO 212
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 212

Lys Val Met Gln Gln Asn Leu Val Tyr
1 5

<210> SEQ ID NO 213
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 213

Asp Glu Lys Ser Ile Ile Thr Tyr
1 5

<210> SEQ ID NO 214
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 214

Glu Glu Ile Glu Gly Phe Arg Tyr
1 5

<210> SEQ ID NO 215
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 215

Met Glu Asn Leu Phe Ile Asn Arg Phe
1 5

<210> SEQ ID NO 216
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 216

Met Glu Lys Ile Trp His His Thr Phe
1 5

<210> SEQ ID NO 217

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<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 217

Met Glu His Ala Met Glu Thr Met Met Phe
1 5 10

<210> SEQ ID NO 218
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 218

Glu Glu Ile Phe Asn Leu Lys Phe
1 5

<210> SEQ ID NO 219
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 219

Leu Val Leu Met Val Leu Tyr Leu Ile
1 5

<210> SEQ ID NO 220
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 220

Glu Glu Leu Gln Gln Lys Val Ser Tyr
1 5

<210> SEQ ID NO 221
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 221

Leu Arg Val Ala Pro Glu Glu His Pro Val Leu
1 5 10

<210> SEQ ID NO 222
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 222

Asp Gly His Leu Phe Gln Val Glu Tyr
1 5

<210> SEQ ID NO 223
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 223

Leu Ala Glu Leu Ala His Arg Glu Tyr
1 5

<210> SEQ ID NO 224
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 224

Asn Glu Ala Asp Val His Gly Ile Tyr Phe
1 5 10

<210> SEQ ID NO 225

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 225

Lys Val Phe Gln Glu Pro Leu Phe Tyr
1 5

<210> SEQ ID NO 226

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 226

Gly Val Leu Ala Trp Val Lys Glu Lys
1 5

<210> SEQ ID NO 227

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 227

His Glu Ala Leu Leu Tyr Tyr Val Leu
1 5

<210> SEQ ID NO 228

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 228

His Glu Met Ile Ile Leu Lys Leu
1 5

<210> SEQ ID NO 229

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 229

Ile Val Pro Ala Asn Phe Pro Ser Leu
1 5

<210> SEQ ID NO 230

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 230

His Leu Asp Leu Gly Ile Leu Tyr Tyr
1 5

<210> SEQ ID NO 231

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 231

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Ile Thr Asp Ser Ala Gly His Ile Leu Tyr
1 5 10

<210> SEQ ID NO 232
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 232

His Thr Asp Asp Pro Leu Thr Trp Asp Tyr
1 5 10

<210> SEQ ID NO 233
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 233

Ile Ala Arg Asn Leu Thr Gln Gln Leu
1 5

<210> SEQ ID NO 234
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 234

Ile Asp Gln Thr Ala Leu Ala Val Tyr
1 5

<210> SEQ ID NO 235
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 235

Leu Glu Asp Val Val Ile Glu Arg Tyr
1 5

<210> SEQ ID NO 236
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 236

Gln Ile Ala Ser Phe Ile Leu Leu Arg
1 5

<210> SEQ ID NO 237
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 237

Asp Glu His Tyr Ile Leu Thr Phe
1 5

<210> SEQ ID NO 238
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 238

Asp Glu Ile Gly Leu Pro Lys Ile Phe Tyr
1 5 10

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<210> SEQ ID NO 239
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 239

Asp Glu Ile Val Arg Ile Asn Gly Tyr
1 5

<210> SEQ ID NO 240
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 240

Asp Glu Lys Leu Leu Tyr Asp Thr Phe
1 5

<210> SEQ ID NO 241
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 241

Arg Ile Ile Glu Glu Thr Leu Ala Leu Lys
1 5 10

<210> SEQ ID NO 242
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 242

Gly Thr Asp Glu Leu Arg Leu Leu Tyr
1 5

<210> SEQ ID NO 243
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 243

Asp Glu Leu Glu Ile Ile Glu Gly Met Lys Phe
1 5 10

<210> SEQ ID NO 244
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 244

Gln Val Asp Pro Leu Ser Ala Leu Lys Tyr
1 5 10

<210> SEQ ID NO 245
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 245

Asp Glu Leu His Tyr Leu Glu Val Tyr
1 5

<210> SEQ ID NO 246
<211> LENGTH: 10

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<212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 246

Glu Glu Phe Glu Leu Leu Gly Lys Ala Tyr
 1 5 10

<210> SEQ ID NO 247
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 247

Gln Leu Glu Asp Gly Arg Thr Leu Ser Asp Tyr
 1 5 10

<210> SEQ ID NO 248
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 248

Asp Glu Phe Leu Trp Arg Glu Gln Phe
 1 5

<210> SEQ ID NO 249
 <211> LENGTH: 8
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 249

Asp Glu Met Leu Ser Arg Gly Phe
 1 5

<210> SEQ ID NO 250
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 250

Asp Glu Pro Leu Leu Lys His Trp Glu Phe
 1 5 10

<210> SEQ ID NO 251
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 251

Pro Ser Arg Asp Ser Leu Pro Leu Pro Val
 1 5 10

<210> SEQ ID NO 252
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 252

Asn Leu Arg Glu Thr Asn Leu Asp Ser Leu Pro
 1 5 10

<210> SEQ ID NO 253
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 253

Asp Glu Val Lys Phe Leu Thr Val Leu
1 5

<210> SEQ ID NO 254

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 254

Asn Glu Val Glu Lys Thr Met Glu Tyr
1 5

<210> SEQ ID NO 255

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 255

Asp Glu Val Gln Val Val Arg Gly His Tyr
1 5 10

<210> SEQ ID NO 256

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 256

Asp Glu Trp Leu Lys Pro Glu Leu Phe
1 5

<210> SEQ ID NO 257

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 257

Asp Glu Tyr Ser Leu Val Arg Glu Leu
1 5

<210> SEQ ID NO 258

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 258

Asn Glu Phe Glu Ala Thr Gln Lys Leu
1 5

<210> SEQ ID NO 259

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 259

Asp Glu Leu Gln Gln Pro Leu Glu Leu
1 5

<210> SEQ ID NO 260

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 260

Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu

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1 5 10

<210> SEQ ID NO 261
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 261

Ser Glu Arg Glu Ala Ile Glu Val Phe
1 5

<210> SEQ ID NO 262
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 262

Arg Tyr Phe Tyr His Gln Glu Glu Tyr
1 5

<210> SEQ ID NO 263
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 263

Thr Ser Ala Leu Pro Ile Ile Gln Lys
1 5

<210> SEQ ID NO 264
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 264

Arg Val Gln Glu Ala Val Glu Ser Met Val Lys
1 5 10

<210> SEQ ID NO 265
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 265

Thr Val Met Glu Leu Val Lys Ile Ile Tyr Lys
1 5 10

<210> SEQ ID NO 266
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 266

Arg Leu Leu Gln Lys Val Leu Ala Tyr
1 5

<210> SEQ ID NO 267
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 267

Arg Ile His Phe Pro Leu Ala Thr Tyr
1 5

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<210> SEQ ID NO 268
 <211> LENGTH: 12
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 268

Val Gly Gly Leu Lys Asn Thr Leu Val His Arg Leu
 1 5 10

<210> SEQ ID NO 269
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 269

Gln Ala Gln Ala Asp Ser Leu Thr Val Tyr
 1 5 10

<210> SEQ ID NO 270
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 270

Val Leu Asp Pro Tyr Leu Leu Lys Tyr
 1 5

<210> SEQ ID NO 271
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 271

Ile Phe Ser Pro Pro Phe Pro Leu Phe Tyr
 1 5 10

<210> SEQ ID NO 272
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 272

Thr Glu Leu Leu Leu Lys Glu Gly Phe
 1 5

<210> SEQ ID NO 273
 <211> LENGTH: 12
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 273

Gly Leu Phe Glu Val Gly Ala Gly Trp Ile Gly Lys
 1 5 10

<210> SEQ ID NO 274
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 274

Tyr Glu Tyr Lys Phe Gly Phe Glu Leu
 1 5

<210> SEQ ID NO 275
 <211> LENGTH: 9
 <212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 275

Trp Pro Leu Trp Arg Leu Val Ser Leu
1 5

<210> SEQ ID NO 276

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 276

Tyr Ile Asp Glu Gln Phe Glu Arg Tyr
1 5

<210> SEQ ID NO 277

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 277

Tyr Leu Asp Glu Lys Leu Ala Leu Leu Asn Ala
1 5 10

<210> SEQ ID NO 278

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 278

Asp Glu His Leu Ile Thr Phe Phe
1 5

<210> SEQ ID NO 279

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 279

Asp Asp Phe His Ile Tyr Val Tyr
1 5

<210> SEQ ID NO 280

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 280

Ala Pro Arg Thr Val Leu Leu Leu Leu
1 5

<210> SEQ ID NO 281

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 281

Ala Pro Arg Thr Val Ala Leu Thr Ala Leu Leu
1 5 10

<210> SEQ ID NO 282

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 282

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Phe Thr Asp Val Asn Ser Ile Leu Arg Tyr
1 5 10

<210> SEQ ID NO 283
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 283

Tyr Ser Glu Glu Glu Cys Arg Gln Tyr
1 5

<210> SEQ ID NO 284
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 284

Tyr Ser Glu Lys Ile Val Asp Met Tyr
1 5

<210> SEQ ID NO 285
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 285

Tyr Thr Asp Leu Leu Arg Leu Phe Glu Tyr
1 5 10

<210> SEQ ID NO 286
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 286

Tyr Val Asp Pro Gln Phe Leu Thr Tyr
1 5

<210> SEQ ID NO 287
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 287

His Glu Arg Thr Phe Leu Leu Glu Tyr
1 5

<210> SEQ ID NO 288
<211> LENGTH: 17
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 288

Ser Ser Val Pro Gly Val Arg Leu Leu Gln Asp Ser Val Asp Phe Ser
1 5 10 15

Leu

<210> SEQ ID NO 289
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 289

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Ser Leu Leu Thr Ser Ser Lys Gly Gln Leu Gln Lys
1 5 10

<210> SEQ ID NO 290
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 290

Ser Pro Arg Glu Asn Ile Leu Val Ser Leu
1 5 10

<210> SEQ ID NO 291
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 291

Asp Glu Val Asp Ile Lys Ser Arg Ala Ala Tyr
1 5 10

<210> SEQ ID NO 292
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 292

Thr Ser Pro Ser Gln Ser Leu Phe Tyr
1 5

<210> SEQ ID NO 293
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 293

Tyr Thr Glu Thr Glu Pro Tyr His Asn Tyr
1 5 10

<210> SEQ ID NO 294
<211> LENGTH: 15
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 294

Ser Ser Val Pro Gly Val Arg Leu Leu Gln Asp Ser Val Asp Phe
1 5 10 15

<210> SEQ ID NO 295
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 295

Val Ala Leu Ile Ser Pro Lys Asp Ile
1 5

<210> SEQ ID NO 296
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 296

Ser Thr Asp Lys Ala Glu Tyr Thr Phe Tyr
1 5 10

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<210> SEQ ID NO 297
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 297

Val Thr Glu Ile Phe Arg Gln Ala Phe
1 5

<210> SEQ ID NO 298
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 298

Ser Val Leu Ser Pro Leu Leu Asn Lys
1 5

<210> SEQ ID NO 299
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 299

Arg Ala Phe Ser Ser Leu Gly Leu Leu Lys
1 5 10

<210> SEQ ID NO 300
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 300

Phe Ser Lys Leu Arg Pro Leu Ile Ser Lys
1 5 10

<210> SEQ ID NO 301
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 301

Arg Thr Phe Thr Trp Leu Val Gly Lys
1 5

<210> SEQ ID NO 302
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 302

Lys Val Ala Asn Ile Ile Leu Ser Tyr
1 5

<210> SEQ ID NO 303
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 303

Thr Met Leu Ala Arg Leu Ala Ser Ala
1 5

<210> SEQ ID NO 304
<211> LENGTH: 9

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<212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 304

His Glu Leu Pro Leu Pro His Ser Val
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<210> SEQ ID NO 305
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 305

Ala Val Gln Arg Thr Leu Leu Glu Lys
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<210> SEQ ID NO 306
 <211> LENGTH: 13
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 306

Glu Thr Arg Pro Ala Gly Asp Gly Thr Phe Gln Lys Trp
 1 5 10

<210> SEQ ID NO 307
 <211> LENGTH: 12
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 307

Ala Val Leu Ser Ile Leu Pro Ala Ile Phe Gln Lys
 1 5 10

<210> SEQ ID NO 308
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 308

Glu Ile Ala Gly His Ile Met Glu Phe
 1 5

<210> SEQ ID NO 309
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 309

Glu Leu Ile Arg Thr Ile Met Gly Trp
 1 5

<210> SEQ ID NO 310
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 310

Glu Val Phe Pro Leu Lys Val Phe Gly Tyr
 1 5 10

<210> SEQ ID NO 311
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 311

Ala	Thr	Pro	Thr	Ser	Pro	Ile	Arg	Val	Lys
1				5					10

<210> SEQ ID NO 312

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 312

Ala	Val	Leu	Tyr	Gln	Pro	Leu	Phe	Asp	Lys
1				5					10

<210> SEQ ID NO 313

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 313

Glu	Val	Val	Asp	Phe	Ile	Gln	Ser	Lys	Ile
1				5					10

<210> SEQ ID NO 314

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 314

Ala	Val	Gln	Glu	Phe	Gly	Leu	Ala	Arg	Phe	Lys
1				5						10

<210> SEQ ID NO 315

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 315

Glu	Ala	Ile	Gln	Asp	Leu	Trp	Gln	Trp
1				5				

<210> SEQ ID NO 316

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 316

Gly	Val	Ile	Arg	Ser	Leu	Met	Ala	Phe
1				5				

<210> SEQ ID NO 317

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 317

His	Ile	Ile	Ser	Gly	Thr	Cys	Ala	Ser	Trp
1				5					10

<210> SEQ ID NO 318

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 318

Gly	Val	Ile	Asp	Val	Ile	Thr	Lys	Thr	Trp
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 1 5 10

<210> SEQ ID NO 319
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 319

Gly Val Ile Asp Leu Ile Phe Glu Lys
 1 5

<210> SEQ ID NO 320
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 320

Gly Val Cys His Ile Phe Ala Ser Phe
 1 5

<210> SEQ ID NO 321
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 321

Gly Thr Tyr Val Ser Ser Val Pro Arg
 1 5

<210> SEQ ID NO 322
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 322

Gly Thr Ala Gly Leu Leu Glu Gln Trp Leu Lys
 1 5 10

<210> SEQ ID NO 323
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 323

His Val Ile Thr Gly Leu Leu Glu His Tyr
 1 5 10

<210> SEQ ID NO 324
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 324

Gly Thr Ala Asp Glu Leu Val Leu His Ser Trp
 1 5 10

<210> SEQ ID NO 325
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 325

Glu Ile Lys Glu Val Ile Leu Glu Phe
 1 5

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<210> SEQ ID NO 326
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 326

Glu Glu Ala Ser Leu Leu His Gln Phe
 1 5

<210> SEQ ID NO 327
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 327

Lys Leu Phe Ile Gly Gly Leu Ser Phe
 1 5

<210> SEQ ID NO 328
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 328

Asp Val Val Pro Ala Val Arg Lys Trp
 1 5

<210> SEQ ID NO 329
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 329

Asp Val Thr Gly Val Val Arg Gln Trp
 1 5

<210> SEQ ID NO 330
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 330

Asp Val Lys Asp Tyr Ile Gln Glu Tyr
 1 5

<210> SEQ ID NO 331
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 331

Asp Val Ile Asp Asn Asp Ser Trp Arg Leu Trp
 1 5 10

<210> SEQ ID NO 332
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 332

Asp Val Phe Ser Ser Lys Gly Met Thr Arg Trp
 1 5 10

<210> SEQ ID NO 333
 <211> LENGTH: 9
 <212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 333

Asp Thr Val Lys Lys Ile Glu Ser Phe
1 5

<210> SEQ ID NO 334

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 334

Asp Leu Pro Ser Asn His Val Ile Asp Arg Trp
1 5 10

<210> SEQ ID NO 335

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 335

Asp Leu Ile Gly His Ile Val Glu Phe
1 5

<210> SEQ ID NO 336

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 336

Asp Lys Glu Ser Gln Leu Glu Ala Tyr
1 5

<210> SEQ ID NO 337

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 337

Glu Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp
1 5 10

<210> SEQ ID NO 338

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 338

Gly Ser Ser Asp Val Ile Ile His Arg
1 5

<210> SEQ ID NO 339

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 339

Gly Thr Leu Asp Tyr Ile Leu Gln Arg
1 5

<210> SEQ ID NO 340

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 340

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Glu Val Asp Lys Arg Val His Met Thr Trp
1 5 10

<210> SEQ ID NO 341
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 341

Ser Val Pro Tyr Phe Leu Phe Gln His Trp
1 5 10

<210> SEQ ID NO 342
<211> LENGTH: 11
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 342

Ser Val Glu Glu Ile Ser Thr Leu Val Gln Lys
1 5 10

<210> SEQ ID NO 343
<211> LENGTH: 10
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<400> SEQUENCE: 343

Ser Thr Phe Gln Gln Met Trp Ile Ser Lys
1 5 10

<210> SEQ ID NO 344
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 344

Thr Thr Ile Pro His Ala Leu Leu Thr Trp
1 5 10

<210> SEQ ID NO 345
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 345

Ser Ala Phe Leu Leu Leu Gly Leu Phe Lys
1 5 10

<210> SEQ ID NO 346
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 346

Asn Ile Gly Asp Glu Ala Leu Ile Gly Arg Trp
1 5 10

<210> SEQ ID NO 347
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 347

Thr Val Ala Phe Val Pro Ile Ser Gly Trp
1 5 10

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<210> SEQ ID NO 348
<211> LENGTH: 10
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 348

Glu Thr Val Asn Leu Arg Ser Leu Gly Phe
1 5 10

<210> SEQ ID NO 349
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 349

Met Pro Lys Phe Ser Met Pro Gly Phe
1 5

<210> SEQ ID NO 350
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 350

Glu Val Met Glu Ile Met Ser Arg Phe
1 5

<210> SEQ ID NO 351
<211> LENGTH: 9
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<400> SEQUENCE: 351

Glu Val Met Asp Val Phe Leu Arg Phe
1 5

<210> SEQ ID NO 352
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 352

Arg Leu Gln Glu Ala Leu Asn Leu Phe
1 5

<210> SEQ ID NO 353
<211> LENGTH: 11
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 353

Glu Thr Ile Asp Trp Lys Val Phe Glu Ser Trp
1 5 10

<210> SEQ ID NO 354
<211> LENGTH: 10
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<400> SEQUENCE: 354

Glu Leu Met Glu His Gly Val Val Ser Trp
1 5 10

<210> SEQ ID NO 355

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<211> LENGTH: 9
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<400> SEQUENCE: 355

Ala Ser Val Ala Trp Ala Val Leu Lys
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<210> SEQ ID NO 356
 <211> LENGTH: 9
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 356

Ser Val Ser Pro Val Val His Val Arg
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<210> SEQ ID NO 357
 <211> LENGTH: 10
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<400> SEQUENCE: 357

His Val Val Asp Arg Asp Thr Glu Ala Trp
 1 5 10

<210> SEQ ID NO 358
 <211> LENGTH: 9
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 358

Glu Thr Ile Thr Gly Leu Arg Val Trp
 1 5

<210> SEQ ID NO 359
 <211> LENGTH: 10
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 359

Arg Gln Leu Glu Asp Ile Leu Ser Thr Tyr
 1 5 10

<210> SEQ ID NO 360
 <211> LENGTH: 11
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 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 360

Ala Ile Ala Gln Ala Glu Ser Leu Arg Tyr Lys
 1 5 10

<210> SEQ ID NO 361
 <211> LENGTH: 11
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<400> SEQUENCE: 361

Gly Val Leu Gln Leu Gly Asn Ile Val Phe Lys
 1 5 10

<210> SEQ ID NO 362
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<400> SEQUENCE: 362

Glu Val Ile Asn Ala Leu Lys Gln Thr Trp
1 5 10

<210> SEQ ID NO 363

<211> LENGTH: 9

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<400> SEQUENCE: 363

Ser Thr Ala Ala Phe Phe Leu Leu Arg
1 5

<210> SEQ ID NO 364

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 364

Asp Ile Tyr Asn Phe Pro Ile His Ala Phe
1 5 10

<210> SEQ ID NO 365

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 365

Thr Val Val Glu Arg Met Leu Ser Asn Trp
1 5 10

<210> SEQ ID NO 366

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 366

Thr Lys Pro Trp Phe Ala Ser Gln Ile Pro Phe
1 5 10

<210> SEQ ID NO 367

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 367

Gly Arg Val Asp Phe Ala Tyr Lys Phe
1 5

<210> SEQ ID NO 368

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 368

Gly Arg Asp Leu Thr Asp Tyr Leu Met
1 5

<210> SEQ ID NO 369

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 369

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Gly Arg Ile Ser Ile Thr Gly Val Gly Phe
1 5 10

<210> SEQ ID NO 370
<211> LENGTH: 9
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<400> SEQUENCE: 370

Gly Arg Ile Val Thr Leu Ile Ser Phe
1 5

<210> SEQ ID NO 371
<211> LENGTH: 10
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 371

Gly Arg Leu Asp Leu Gln Tyr Ala Lys Leu
1 5 10

<210> SEQ ID NO 372
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 372

Gly Arg Thr Asn Leu Ile Val Asn Tyr
1 5

<210> SEQ ID NO 373
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 373

Arg Tyr Phe Asp Thr Ala Val Ser Arg
1 5

<210> SEQ ID NO 374
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 374

Gly Arg Met Val Gln Val His Glu Leu
1 5

<210> SEQ ID NO 375
<211> LENGTH: 11
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<400> SEQUENCE: 375

Phe Leu Asp Ala Ser Gly Ala Lys Leu Asp Tyr
1 5 10

<210> SEQ ID NO 376
<211> LENGTH: 9
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<400> SEQUENCE: 376

Ala Thr Asp Tyr His Val Arg Val Tyr
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<210> SEQ ID NO 377
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 377

Ala Arg Leu Pro Trp Ala Gly Gln Leu
1 5

<210> SEQ ID NO 378
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 378

Tyr Gly Met Pro Arg Gln Ile Leu
1 5

<210> SEQ ID NO 379
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 379

Gly Arg Leu Leu Val Ala Thr Thr Phe
1 5

<210> SEQ ID NO 380
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 380

Ala Gly Gly Asp Trp Phe Thr Ser Arg
1 5

<210> SEQ ID NO 381
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 381

Gly Arg Ala Pro Ile Ser Asn Pro Gly Met
1 5 10

<210> SEQ ID NO 382
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 382

Gly Arg Met Glu Asn Leu Ala Ser Tyr Arg
1 5 10

<210> SEQ ID NO 383
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 383

Val Leu Pro Lys Ser Arg Val Glu Leu
1 5

<210> SEQ ID NO 384
<211> LENGTH: 9

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<212> TYPE: PRT
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<400> SEQUENCE: 384

Asp Ala Lys Ile Arg Ile Phe Asp Leu
1 5

<210> SEQ ID NO 385
<211> LENGTH: 10
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 385

Gly Arg Ala Met Val Ala Arg Leu Gly Leu
1 5 10

<210> SEQ ID NO 386
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 386

Phe Ile Asp Ala Ser Arg Leu Val Tyr
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<210> SEQ ID NO 387
<211> LENGTH: 9
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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 387

Asp Pro Met Lys Ala Arg Val Val Leu
1 5

<210> SEQ ID NO 388
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 388

Phe Arg Phe Asp Pro Gln Phe Ala Leu
1 5

<210> SEQ ID NO 389
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 389

Asp Thr Asp His Tyr Phe Leu Arg Tyr
1 5

<210> SEQ ID NO 390
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 390

Glu Leu Leu Ile Arg Lys Leu Pro Phe
1 5

<210> SEQ ID NO 391
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 391

Glu Ala Phe Val Arg His Ile Leu
1 5

<210> SEQ ID NO 392

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 392

Arg Tyr Phe Asp Thr Ala Met Ser Arg
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<210> SEQ ID NO 393

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 393

Gly Arg Val Phe Ile Ile Ser Lys Tyr
1 5

<210> SEQ ID NO 394

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 394

Thr Phe Arg Pro Ala Ala Met Leu Val Glu Arg
1 5 10

<210> SEQ ID NO 395

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 395

Tyr Leu Leu Glu Lys Ser Arg Ala Ile
1 5

<210> SEQ ID NO 396

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 396

Leu Ser Asp Leu Gly Lys Leu Ser Tyr
1 5

<210> SEQ ID NO 397

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 397

Val Thr Asp Ser Ile Arg Asp Glu Tyr
1 5

<210> SEQ ID NO 398

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 398

Leu Thr Asp Arg Glu Leu Glu Glu Tyr

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<210> SEQ ID NO 399
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 399

Leu Thr Asp Arg Gly Val Met Ser Tyr
1 5

<210> SEQ ID NO 400
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 400

Lys Gly Leu Ser Val Phe Leu Asn Arg
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<210> SEQ ID NO 401
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 401

Val Thr Asp Asn Arg Ala Phe Gly Tyr
1 5

<210> SEQ ID NO 402
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 402

Ser Thr Asp Val Ser Asp Leu Leu His Gln Tyr
1 5 10

<210> SEQ ID NO 403
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 403

Arg Ser Leu Pro Phe Phe Ser Ala Arg
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<210> SEQ ID NO 404
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 404

Tyr Arg Phe Met Gly Thr Glu Ala Tyr
1 5

<210> SEQ ID NO 405
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 405

Met Pro Leu Leu Arg Gln Glu Glu Leu
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<210> SEQ ID NO 406
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 406

Val Thr Glu Ile Asp Gln Asp Lys Tyr
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<210> SEQ ID NO 407
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 407

Met Arg His Leu Gly Ala Phe Leu Phe
1 5

<210> SEQ ID NO 408
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 408

Thr Thr Glu Glu Ser Leu Arg Asn Tyr Tyr
1 5 10

<210> SEQ ID NO 409
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 409

Met Arg Thr Ser Tyr Leu Leu Leu Phe
1 5

<210> SEQ ID NO 410
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 410

Thr Val Asp Gln Val Lys Asp Leu Tyr
1 5

<210> SEQ ID NO 411
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 411

Met Arg Tyr Val Ala Ser Tyr Leu Leu
1 5

<210> SEQ ID NO 412
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 412

Val Gly Leu Ile Arg Asn Leu Ala Leu
1 5

<210> SEQ ID NO 413
<211> LENGTH: 9
<212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 413

Gly Arg Leu Asp Ala Val Leu Gln Arg
1 5

<210> SEQ ID NO 414

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 414

Leu Leu Asp Gln Gly Gln Leu Asn Lys Tyr
1 5 10

<210> SEQ ID NO 415

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 415

Asn Arg Phe Ala Gly Phe Gly Ile Gly Leu
1 5 10

<210> SEQ ID NO 416

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 416

Lys Arg Leu Gly Thr Leu Val Val Thr Tyr
1 5 10

<210> SEQ ID NO 417

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 417

Lys Arg Gly Asp Val Ile Tyr Ile Leu
1 5

<210> SEQ ID NO 418

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 418

Ser Arg Phe Asp Ile Pro Leu Gly Leu
1 5

<210> SEQ ID NO 419

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 419

Ser Thr Asp Pro Ser Val Leu Gly Lys Tyr
1 5 10

<210> SEQ ID NO 420

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 420

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Ser Arg Phe Leu Lys Ser Asp Leu Phe
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<210> SEQ ID NO 421
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 421

Val Gln Lys Pro Ser Tyr Tyr Val Arg
1 5

<210> SEQ ID NO 422
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 422

Ser Arg Ile Ser Leu Pro Leu Pro Asn Phe
1 5 10

<210> SEQ ID NO 423
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 423

Leu Arg Ser Gly Leu Pro Leu Leu Leu
1 5

<210> SEQ ID NO 424
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 424

Ser Phe Lys Asp Tyr Ile Gln Glu Arg
1 5

<210> SEQ ID NO 425
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 425

His Thr Gln Gly Pro Val Asp Gly Ser Leu Tyr
1 5 10

<210> SEQ ID NO 426
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 426

Ser Thr Asp Lys Phe Lys Thr Asp Phe Tyr
1 5 10

<210> SEQ ID NO 427
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 427

Gly Ser His Ser Met Arg Tyr Phe Phe
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<210> SEQ ID NO 428
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 428

Gly Ser His Ser Met Arg Tyr Phe Phe Thr
1 5 10

<210> SEQ ID NO 429
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 429

Gly Ser His Ser Met Arg Tyr Phe His
1 5

<210> SEQ ID NO 430
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 430

Ala Ala Ile Leu Gly Met His Asn Leu
1 5

<210> SEQ ID NO 431
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 431

Lys Leu Asp Pro Thr Lys Thr Thr Leu
1 5

<210> SEQ ID NO 432
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 432

Phe Val His Asp Leu Val Leu Tyr Leu
1 5

<210> SEQ ID NO 433
<211> LENGTH: 7
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 433

Phe Val His Asp Leu Val Leu
1 5

<210> SEQ ID NO 434
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 434

Val Leu Ile Pro Lys Leu Pro Gln Leu
1 5

<210> SEQ ID NO 435

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<211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 435

Asn Glu Ile Thr Ile Pro Val Thr Phe
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<210> SEQ ID NO 436
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 436

Tyr Leu Ala Asp Phe Leu Leu Thr Lys
 1 5

<210> SEQ ID NO 437
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 437

Tyr Leu Ile Pro Leu Leu Glu Arg Leu
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<210> SEQ ID NO 438
 <211> LENGTH: 8
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 438

Asn Glu Val Val Thr Arg Glu Tyr
 1 5

<210> SEQ ID NO 439
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 439

Asp Glu Phe Lys Ile Gly Glu Leu Phe
 1 5

<210> SEQ ID NO 440
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 440

Ile Gln Arg Thr Pro Lys Ile Gln Val Tyr Ser
 1 5 10

<210> SEQ ID NO 441
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 441

Leu Thr Gly Pro Val Met Pro Val Arg
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<210> SEQ ID NO 442
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 442

Ala Val Ala Ile Lys Ala Met Ala Lys
1 5

<210> SEQ ID NO 443

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 443

Phe Val Gln Met Met Thr Ala Lys
1 5

<210> SEQ ID NO 444

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 444

Ala Thr Asp Pro Asn Ile Leu Gly Arg
1 5

<210> SEQ ID NO 445

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 445

Leu Leu Leu Leu Ser Ile Val Ile Leu
1 5

<210> SEQ ID NO 446

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 446

Lys Leu Pro Asn Phe Gly Phe Val Val Phe
1 5 10

<210> SEQ ID NO 447

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 447

Lys Leu Ser Glu Ile Asp Val Ala Leu
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<210> SEQ ID NO 448

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 448

Leu Ala Ala Leu Pro His Ser Cys Leu
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<210> SEQ ID NO 449

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 449

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Tyr Ser Ile Ile Thr Pro Asn Ile Leu Arg Leu
1 5 10

<210> SEQ ID NO 450
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 450

Ala Leu Pro Ser Arg Ile Leu Leu Trp Lys
1 5 10

<210> SEQ ID NO 451
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 451

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
1 5 10

<210> SEQ ID NO 452
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 452

Phe Leu Leu Asp Leu Ser Arg Ser Val
1 5

<210> SEQ ID NO 453
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 453

Ile Ile Tyr Lys Gly Gly Thr Ser Arg
1 5

<210> SEQ ID NO 454
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 454

Ile Val Ala Asp His Val Ala Ser Tyr
1 5

<210> SEQ ID NO 455
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 455

Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu
1 5 10

<210> SEQ ID NO 456
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 456

Arg Thr Gly Pro Pro Met Gly Ser Arg Phe
1 5 10

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<210> SEQ ID NO 457
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 457

Arg Gln Ile Gln Glu Ser Val Thr Phe
 1 5

<210> SEQ ID NO 458
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 458

Arg Val Ala Pro Glu Glu His Pro Val
 1 5

<210> SEQ ID NO 459
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 459

Thr Leu Ala Asp Leu Leu Ala Leu Arg
 1 5

<210> SEQ ID NO 460
 <211> LENGTH: 12
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 460

Arg Val Ala Pro Glu Glu His Pro Val Leu Leu Thr
 1 5 10

<210> SEQ ID NO 461
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 461

Thr Leu Ala Asp Ile Ile Ala Arg Leu
 1 5

<210> SEQ ID NO 462
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 462

Arg Trp Glu Asp Gly Ser Pro Leu Asn Phe
 1 5 10

<210> SEQ ID NO 463
 <211> LENGTH: 8
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 463

Tyr Glu Val Ser Gln Leu Lys Asp
 1 5

<210> SEQ ID NO 464
 <211> LENGTH: 10

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<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 464

Tyr Arg Asp Ile Pro Glu Leu Gln Gly Phe
1 5 10

<210> SEQ ID NO 465
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 465

Tyr Val Asp Gly Thr Gln Phe Val Arg Phe
1 5 10

<210> SEQ ID NO 466
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 466

Ser Leu Leu Asp Glu Phe Tyr Lys Leu
1 5

<210> SEQ ID NO 467
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 467

His Gly Ile Asp Pro Thr Gly Thr Tyr
1 5

<210> SEQ ID NO 468
<211> LENGTH: 13
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 468

Ser Leu Asp Lys Phe Leu Ala Ser Val Ser Thr Val Leu
1 5 10

<210> SEQ ID NO 469
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 469

Ser Ile Gly Glu Arg Asp Leu Ile Phe His
1 5 10

<210> SEQ ID NO 470
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 470

Ser Ile Thr Ser Val Phe Ile Thr Lys
1 5

<210> SEQ ID NO 471
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 471

Phe	Gly	Glu	His	Leu	Leu	Glu	Ser	Asp	Leu	Phe
1				5					10	

<210> SEQ ID NO 472

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 472

Phe	Leu	Asp	Pro	Ile	Lys	Ala	Tyr	Leu
1				5				

<210> SEQ ID NO 473

<211> LENGTH: 11

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 473

Phe	Leu	Ala	Asp	Pro	Ser	Ala	Phe	Val	Ala	Ala
1				5					10	

<210> SEQ ID NO 474

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 474

Ile	Thr	Ala	Pro	Pro	Ser	Arg	Val	Leu
1				5				

<210> SEQ ID NO 475

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 475

Val	Leu	Asp	Glu	Leu	Lys	Asn	Met	Lys	Cys
1				5					10

<210> SEQ ID NO 476

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 476

Leu	Leu	Gly	Pro	Arg	Leu	Val	Leu	Ala
1				5				

<210> SEQ ID NO 477

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 477

Ile	Ile	Met	Pro	His	Asn	Ile	Tyr	Leu
1				5				

<210> SEQ ID NO 478

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 478

Leu	Val	Arg	Met	Val	Leu	Asn	Gly
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<210> SEQ ID NO 479
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 479

Arg Leu Tyr Gly Pro Ser Ser Val Ser Phe
1 5 10

<210> SEQ ID NO 480
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 480

Phe Glu Ala Pro Ile Lys Leu Val Phe
1 5

<210> SEQ ID NO 481
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 481

Ile Gln Pro Gly Ala Val Lys Val Tyr
1 5

<210> SEQ ID NO 482
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 482

Val Leu Ala Glu Val Pro Thr Gln Leu
1 5

<210> SEQ ID NO 483
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 483

Ile Met Arg Ala Gly Met Ser Ser Leu
1 5

<210> SEQ ID NO 484
<211> LENGTH: 12
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 484

Val Glu Phe Ser Ser Gly Leu Lys Gly Met Ser Leu
1 5 10

<210> SEQ ID NO 485
<211> LENGTH: 11
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 485

Ile Leu Asn Pro Asp Asn Ser Phe Glu Ile Leu
1 5 10

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<210> SEQ ID NO 486
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 486

Val Ala Leu Glu Phe Ala Leu His Leu
1 5

<210> SEQ ID NO 487
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 487

Thr Val Ala Val Pro Leu Val Gly Lys
1 5

<210> SEQ ID NO 488
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 488

Thr Leu Ser Asp Leu Arg Val Tyr Leu
1 5

<210> SEQ ID NO 489
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 489

Thr Leu Ile Asp Ile Met Thr Arg Phe
1 5

<210> SEQ ID NO 490
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 490

His Asp Phe Pro Arg Ala Leu Ile Phe
1 5

<210> SEQ ID NO 491
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 491

Gly Ser His Ser Met Arg Tyr Phe
1 5

<210> SEQ ID NO 492
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 492

Ser Leu Met Asp His Thr Ile Pro Glu Val
1 5 10

<210> SEQ ID NO 493
<211> LENGTH: 11
<212> TYPE: PRT

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<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 493

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
1 5 10

<210> SEQ ID NO 494

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 494

Phe Leu Val Thr Val Ile His Thr Leu
1 5

<210> SEQ ID NO 495

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 495

Thr Asp Gly Lys Val Phe Gln Phe
1 5

<210> SEQ ID NO 496

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 496

Tyr Asp Leu Leu Arg Asn Thr Asn Phe
1 5

<210> SEQ ID NO 497

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 497

Ile Leu Tyr Pro Lys Thr Leu Phe Leu
1 5

<210> SEQ ID NO 498

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 498

Met Arg Tyr Val Ala Ser Tyr Leu
1 5

<210> SEQ ID NO 499

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 499

Phe Ile Trp Glu Asn Ile His Thr Leu
1 5

<210> SEQ ID NO 500

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 500

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Arg Glu Leu Pro Ala Trp Val Ser Phe
1 5

<210> SEQ ID NO 501
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 501

Gln Asp Leu Asn Arg Ile Phe Pro Leu
1 5

<210> SEQ ID NO 502
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 502

Arg Asp Ser Ile Val Ala Glu Leu
1 5

<210> SEQ ID NO 503
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 503

Ala Asp Val Leu Lys Val Glu Val Phe
1 5

<210> SEQ ID NO 504
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 504

Tyr Asp Ser Ile Ile Tyr Arg Met
1 5

<210> SEQ ID NO 505
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 505

Ala Met Asn Pro Val Glu His Pro Phe
1 5

<210> SEQ ID NO 506
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 506

Ser Glu Leu Ile Arg Asn Val Thr Leu
1 5

<210> SEQ ID NO 507
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 507

Gln Asp Val Ala Arg Val Leu Gly Phe
1 5

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<210> SEQ ID NO 508
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 508

Ser Asp His Ile His Ile Ile Ala Leu
1 5

<210> SEQ ID NO 509
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 509

Ala Asp Ser Leu Arg Leu Gln Gln Leu
1 5

<210> SEQ ID NO 510
<211> LENGTH: 8
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 510

Leu Leu Asp Ile Arg Ser Glu Tyr
1 5

<210> SEQ ID NO 511
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 511

Val Leu Phe Gly Leu Leu Arg Glu Val
1 5

<210> SEQ ID NO 512
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 512

Val Ala Val Gly Arg Ala Leu Tyr Tyr
1 5

<210> SEQ ID NO 513
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 513

Met Arg Phe Leu Ala Ala Thr Phe Leu
1 5

<210> SEQ ID NO 514
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 514

Tyr Thr Asp Pro Glu Val Phe Lys Tyr
1 5

<210> SEQ ID NO 515

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<211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 515

His Asp Phe Leu Lys Tyr Asp Phe Phe
 1 5

<210> SEQ ID NO 516
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 516

Ala Ile Asp Gln Leu His Leu Glu Tyr
 1 5

<210> SEQ ID NO 517
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 517

Ser Asp Leu Glu Arg Val Thr Ser Leu
 1 5

<210> SEQ ID NO 518
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 518

Thr Leu Leu Pro Leu Arg Val Phe Leu
 1 5

<210> SEQ ID NO 519
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 519

Tyr Ser Ile Ile Thr Pro Asn Ile Leu Arg
 1 5 10

<210> SEQ ID NO 520
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 520

Phe Glu Leu Gln Arg Asn Phe Gln Leu
 1 5

<210> SEQ ID NO 521
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 521

Leu Asp Leu Gln Arg Asn Tyr Ile Phe
 1 5

<210> SEQ ID NO 522
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 522

Arg Arg Leu Asp Pro Ile Pro Gln Leu
1 5

<210> SEQ ID NO 523

<211> LENGTH: 12

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 523

Ser Leu Pro Ile Lys Glu Ser Glu Ile Ile Asp Phe
1 5 10

<210> SEQ ID NO 524

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 524

Thr Glu Leu Leu Arg Tyr Tyr Met Leu
1 5

<210> SEQ ID NO 525

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 525

Phe Ile Tyr His Gly Glu Val Pro Gln Ala
1 5 10

<210> SEQ ID NO 526

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 526

Ala Glu Met Leu Arg Ser Ile Ser Phe
1 5

<210> SEQ ID NO 527

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 527

Arg Leu Gln Glu Asp Pro Pro Val Gly Val
1 5 10

<210> SEQ ID NO 528

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 528

Ala Glu Leu Glu Arg Ala Ala Ala Leu
1 5

<210> SEQ ID NO 529

<211> LENGTH: 8

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 529

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Tyr Thr Asp Lys Ile Asp Arg Tyr
1 5

<210> SEQ ID NO 530
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 530

Phe Leu Leu Pro Asp Val Ile Arg Ile
1 5

<210> SEQ ID NO 531
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 531

Val Glu Leu Pro His Ile Asn Leu Leu
1 5

<210> SEQ ID NO 532
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 532

Val Met Leu Asp Val Pro Ile Arg Leu
1 5

<210> SEQ ID NO 533
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 533

Ser Leu Leu Glu Asn Leu Glu Lys Ile
1 5

<210> SEQ ID NO 534
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 534

Tyr Ala Asp Pro Val Asn Ala His Tyr
1 5

<210> SEQ ID NO 535
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 535

Ala Glu Leu Leu Arg Gly Leu Ser Leu
1 5

<210> SEQ ID NO 536
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 536

Thr Thr Glu Val His Pro Glu Leu Tyr
1 5

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<210> SEQ ID NO 537
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 537

Arg Glu Thr Asn Leu Asp Ser Leu Pro
 1 5

<210> SEQ ID NO 538
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 538

Glu Leu Glu Asp Ser Thr Leu Arg Tyr
 1 5

<210> SEQ ID NO 539
 <211> LENGTH: 8
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 539

Phe Leu Asp Ile Tyr Ile Phe Leu
 1 5

<210> SEQ ID NO 540
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 540

Thr Tyr Thr Asp Arg Val Phe Phe Leu
 1 5

<210> SEQ ID NO 541
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 541

Ser Pro His Leu Ala Asn Tyr Phe Tyr Phe
 1 5 10

<210> SEQ ID NO 542
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 542

Ser Pro Arg Leu Pro Val Gly Gly Phe
 1 5

<210> SEQ ID NO 543
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 543

Lys Leu Leu Asp Lys Val Gln Ala Tyr Ser
 1 5 10

<210> SEQ ID NO 544
 <211> LENGTH: 9

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<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 544

Ala Tyr Gln His Leu Phe Tyr Leu Leu
1 5

<210> SEQ ID NO 545
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 545

Lys Tyr Ile Leu Leu Met Asp Ile Ile Ala
1 5 10

<210> SEQ ID NO 546
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 546

Arg Tyr Ser Ser Met Ala Ala Ser Phe
1 5

<210> SEQ ID NO 547
<211> LENGTH: 10
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 547

Ser Pro Arg Ala Ala Glu Pro Val Gln Leu
1 5 10

<210> SEQ ID NO 548
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 548

Ile Tyr Thr Ser Ser Val Asn Arg Leu
1 5

<210> SEQ ID NO 549
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 549

Leu Tyr Pro Gln Phe Met Phe His Leu
1 5

<210> SEQ ID NO 550
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 550

Arg Tyr Ile Pro Thr Ala Ala Ala Phe
1 5

<210> SEQ ID NO 551
<211> LENGTH: 9
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

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<400> SEQUENCE: 551

Glu Tyr Ile Val Lys Lys Ile Pro Val
1 5

<210> SEQ ID NO 552

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 552

Ser Arg Val Glu Ala Val Tyr Val Leu
1 5

<210> SEQ ID NO 553

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 553

Met Pro Arg Gly Val Val Val Thr Leu
1 5

<210> SEQ ID NO 554

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 554

Leu Pro Lys Pro Pro Gly Arg Gly Val
1 5

<210> SEQ ID NO 555

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 555

Arg Leu Trp Gly Glu Pro Val Asn Leu
1 5

<210> SEQ ID NO 556

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 556

Arg Leu Leu Asp Val Leu Ala Pro Leu
1 5

<210> SEQ ID NO 557

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 557

Leu Tyr Ile Leu Ser Ser His Asp Ile
1 5

<210> SEQ ID NO 558

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 558

Thr Pro Met Gly Pro Gly Arg Thr Val

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<210> SEQ ID NO 559
 <211> LENGTH: 14
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 559

Gly Pro Pro Gly Thr Gly Lys Thr Asp Val Ala Val Gln Ile
 1 5 10

<210> SEQ ID NO 560
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 560

Asn Glu Ile Glu Asp Thr Phe Arg Gln Phe
 1 5 10

<210> SEQ ID NO 561
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 561

Glu Glu Ile Asp Leu Arg Ser Val Gly Trp
 1 5 10

<210> SEQ ID NO 562
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 562

Lys Tyr Gln Lys Gly Phe Ser Leu Trp
 1 5

<210> SEQ ID NO 563
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 563

Val Tyr Pro Asp Gly Ile Arg His Ile
 1 5

<210> SEQ ID NO 564
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 564

Lys Phe Ile Asp Thr Thr Ser Lys Phe
 1 5

<210> SEQ ID NO 565
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 565

Phe Leu Asp Ile Leu Asn Thr Leu Ile
 1 5

-continued

<210> SEQ ID NO 566
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 566

Lys Tyr Ile Thr Gln Gly Gln Leu Leu Gln Phe
 1 5 10

<210> SEQ ID NO 567
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 567

Lys Tyr Leu Ser Val Gln Gly Gln Leu Phe
 1 5 10

<210> SEQ ID NO 568
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 568

Arg Tyr Phe Asp Glu Pro Val Glu Leu
 1 5

<210> SEQ ID NO 569
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 569

Lys Tyr Asp Glu Ile Phe Tyr Asn Leu
 1 5

<210> SEQ ID NO 570
 <211> LENGTH: 9
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 570

Ser Tyr Ile Glu His Ile Phe Glu Ile
 1 5

<210> SEQ ID NO 571
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 571

Lys Phe Ile Asp Pro Ile Tyr Gln Val Trp
 1 5 10

<210> SEQ ID NO 572
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 572

Leu Gly Tyr Thr Glu Gly Ala Leu Leu Ala Leu
 1 5 10

<210> SEQ ID NO 573
 <211> LENGTH: 9
 <212> TYPE: PRT

-continued

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 573

Lys Tyr Pro Ser Pro Phe Phe Val Phe
1 5

<210> SEQ ID NO 574

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 574

Glu Tyr Pro Asp Arg Ile Met Asn Thr Phe
1 5 10

<210> SEQ ID NO 575

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 575

Val Tyr Ile Ser Glu His Glu His Phe
1 5

<210> SEQ ID NO 576

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 576

Lys Tyr Phe Leu Lys Pro Glu Val Leu
1 5

<210> SEQ ID NO 577

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 577

Gly Pro Ala Leu Gly Arg Ser Phe Leu
1 5

<210> SEQ ID NO 578

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Artificial

<220> FEATURE:

<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic peptide

<400> SEQUENCE: 578

Glu Leu Ala Gly Ile Gly Ile Leu Thr Val
1 5 10

<210> SEQ ID NO 579

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Human immunodeficiency virus type 1

<400> SEQUENCE: 579

Ile Leu Lys Glu Pro Val His Gly Val
1 5

<210> SEQ ID NO 580

<211> LENGTH: 9

<212> TYPE: PRT

-continued

<213> ORGANISM: Influenza virus

<400> SEQUENCE: 580

Gly Ile Leu Gly Phe Val Phe Thr Leu
1 5

<210> SEQ ID NO 581

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Human cytomegalovirus

<400> SEQUENCE: 581

Asn Leu Val Pro Met Val Ala Thr Val
1 5

<210> SEQ ID NO 582

<211> LENGTH: 10

<212> TYPE: PRT

<213> ORGANISM: Human herpesvirus 4

<400> SEQUENCE: 582

Leu Leu Asp Phe Val Arg Phe Met Gly Val
1 5 10

<210> SEQ ID NO 583

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Human herpesvirus 4

<400> SEQUENCE: 583

Gly Leu Cys Thr Leu Val Ala Met Leu
1 5

<210> SEQ ID NO 584

<211> LENGTH: 9

<212> TYPE: PRT

<213> ORGANISM: Human herpesvirus 4

<400> SEQUENCE: 584

Cys Leu Gly Gly Leu Leu Thr Met Val
1 5

The invention claimed is:

1. An isolated peptide consisting of SEQ ID NO: 448.
2. An isolated peptide consisting of SEQ ID NO: 448, with the proviso that one amino acid of SEQ ID NO: 448 is replaced by another amino acid with similar chemical properties, the peptide being capable of binding to a molecule of the human major histocompatibility complex (MHC) class I.
3. An isolated peptide consisting of SEQ ID NO: 448 and one additional amino acids at the N or/and C-terminus thereof, the peptide being capable of binding to a molecule of the human major histocompatibility complex (MHC) class I.
4. A method for production of an antibody wherein said method comprises the use of an isolated peptide of claim 1.
5. A composition comprising an isolated peptide of claim 1.
6. A composition comprising an isolated peptide of claim 2.
7. A composition comprising an isolated peptide of claim 3.
8. An isolated nucleic acid molecule encoding the isolated peptide of claim 1.
9. An isolated vector comprising the isolated nucleic acid molecule of claim 8.

- 45 10. An isolated cell that has been genetically altered to comprise the isolated nucleic acid molecule of claim 8, wherein said isolated cell is capable of expressing the nucleic acid to produce the peptide.
- 50 11. An isolated cell that has been genetically altered to comprise the isolated vector of claim 9, wherein said isolated cell is capable of expressing the vector to produce the peptide.
- 55 12. An isolated nucleic acid molecule encoding the isolated peptide of claim 2.
13. An isolated vector comprising the isolated nucleic acid molecule of claim 12.
- 60 14. An isolated cell that has been genetically altered to comprise the isolated nucleic acid molecule of claim 12, wherein said isolated cell is capable of expressing the nucleic acid to produce the peptide.
- 65 15. An isolated cell that has been genetically altered to comprise the isolated vector of claim 13, wherein said isolated cell is capable of expressing the vector to produce the peptide.
16. An isolated nucleic acid molecule encoding the isolated peptide of claim 3.

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17. An isolated vector comprising the isolated nucleic acid molecule of claim **16**.

18. An isolated cell that has been genetically altered to comprise the isolated nucleic acid molecule of claim **16**, wherein said isolated cell is capable of expressing the nucleic acid to produce the peptide. 5

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19. An isolated cell that has been genetically altered to comprise the isolated vector of claim **17**, wherein said isolated cell is capable of expressing the vector to produce the peptide.

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